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## CONTENTS

June 1989

## REGULARS

## News

Snotty fun with Gilbert, the great disc shortage, and more Ninjas in the form of Shinobi, are just some of the stories featured this month.

## Neon Zone

Another trip to bankruptcy with master of ceremonies John Cook. This time he discovers how a computer game can be converted to the arcade.

## Applications Advice

David Dorn takes over the mantle as agony Uncle, for a while at least.

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The official magazine for Amstrad CPC Users Hairy Hacker
Two pages of pokes and tips, all as hairy as ever.

## Meltdown

Quite honestly the hottest games section around. Just don't stand too close else your hair will fall out.

## Letters

Erm.. Er... The letters page actually!

## COVER STORY



Play It By Ear
Amstrad music? 'Tis possible, says Rod Shaw, and why not!

## Printer Review

The Citizen HQP-45 is the latest to sufer the proverbial benchtest.


## Skweek

A cute little game from the French Connection with lost of bubbling action! (Groan!)


## Lock, Stock and Barrel

David Dorn runs his beedy eyes over Stock Control, from Thompson Computers.

## PROGRAMMING

Lizting
Solitaire in four pages, surely not!


## Fun School II

Ex-Primary school teacher David Dorn reviews the popular Fun School II software. Nods of approval resound from all sides.

Three whole pages of mini-programmes, winning lots of money for their authors.

Company Profile
Mark Ulyatt travels to Microprose, hangs around a little, and returns with some tales to tell.

# N camputen 

## Bandits <br> VEKTOR Grafix have announced the

imminent release of their multiaircraft simulator entitled 'Bomber' for the Amstrad market. Following nine months in the development stage, Vektor are nearing completion of the six formats for which they hold the contract with Activision although they do believe that the first showing may not be until the Summer Ces in Chicago.

The company that produced the home computer versions of 'Star Wars' and 'Empire' are now hoping to continue their reputation with 'Bomber' although John Lewis, a Director of Vektor Grafix points out: "The long-term aims of Vektor go much further than simply converting arcade games and other people's ideas. The creation of saleable and original material is far more involved and is far more demanding. Coming up with original concepts and novel presentational ideas is the only way forward and with the kind of 3D technology we have at our finger tips, the possibilities are endless." This is a wholesome philosophy for any


- The Mig-27 flogger

- The "wild weasel" F-4 Phantom - A big, bulging beast of an aircraft

- Out of the cockpit, a tranquil calm is viewed. Eat lead death, hah!
company and Vektor are hoping that 'Bomber' will help drive them forward.

The game itself is angled towards the interdictor/strike multi-role aeroplane, which, as Lewis suggests is "already great fun, something which true simulator fans may not like but if you're a frustrated pilot, it's great."

The game will feature such aircraft as the Tornado IDS, the F-4 Phantom, the F-111F Aardvaak and uniquely,
the Mig-27 Flogger D. If you are an aircraft enthusiast, this may all mean something to you and will probably be a game you can look forward to, but it remains to be seen whether such a detailed game with a specific target will actually take-off. The Directors of Vektor Grafix claim that they, "designed 'Bomber' in such a way that the player can choose between a strategy approach to playing or an outright shoot-em-up.

# Slipped disc dilemma <br> A SOURCE close to Amstrad has <br> dealers are annoyed that they are the 

recently admitted that there is a shortage of 3 inch discs used in its PCW, Spectrum +3 and CPC machines. Owners have found it increasingly difficult to obtain the discs due to an increase in demand. The source claims that "we have ramped up production to cater for it" and that despite this the shortage "will not be eased for a few weeks - not until April when the discs should start coming through in reasonable volumes."

Amstrad had apparently built a large stockpile of the discs when it released the PCW machines in 1985 and when the discs ran out most of the original manufacturers had stopped producing the 3 inch format. Amstrad is reserved about the identity of its present disc manufacturer, as our source informed us: "For commercial reasons we always guard the identity of our suppliers."

Locomotive software, which produces the Loco products for the PCW, became aware of the situation and bought as many discs as it could. Howard Fisher of locomotive admits the shortage has meant that the

availability of discs "is now something we actually worry about."

Several smaller companies have not been so lucky. It is common for small scale companies who have placed back order for 50,000 discs to receive only 1,000 . Customer orders are consequently piling up and some
ones who have to deal with upset customers for a situation which is outside their control. A spokesman at a Rymans store in central London said the store has had some difficulty obtaining 3 inch discs in the last few months. Also, an Oxford Street branch of Dixons we contacted had run out of the discs ten days earlier and is waiting for some more to arrive.

It seems that the main reason for the shortage is the apparent switch of disc manufacturers by Amstrad. Until November, disc production for Amsoft was handled by several companies, but it is now handled entirely by Maxell. Neil Cooper of Maxell UK admits that there has been "a hiccup in supply because it takes time to increase disc production in Japan. The situation should ease in April."

When asked about the shortage, a spokeswoman for the Amstrad Disc Express department said "there is a world shortage of 3 inch discs. Maxell is the only company producing discs of a high standard. There are other discs coming in but they are not of the same quality. At present they seem to be the only alternative."

## Get mucky!



- Get Snotty!

ENIGMA Variations have released a green slime enhancing game under the guise of Gilbert the Alien, star of the TV series 'Get Fresh' and 'Gilbert's Fridge'. Entitled 'Gilbert - Escape to Drill' the game is marketed by Again Again and promises to be an eye opener into the world of show business and alien banter.

The central theme throughout the game is envy with an emphasis on green as Gilbert's fellow Drillians (Drill being the planet on which our trusty hero was born) attempt to avoid another winter of Gilbert's bragging and general hocus pocus by preventing him from reaching Earth and signing his Tyne Tees Television contract.

The Millenium Dustbin is
consequently spread about the planet in various pieces by the Drillians, who like a bit of sport and therefore give Gilbert the chance to rebuild his ticket to Earth by providing clues, that is if he succeeds in winning his way through a succession of five arcade games. The list of these games is evidence in itself that Drill is no stereotypical planet as Gilbert is no stereotypical alien. With Brian Drain, Sprout Wars, Greed, Snotfight at the OK Corral and Earth Invaders, Gilbert has his work cut out and the chance to put his somewhat human attributes to use.
'Gilbert - Escape from Drill' is priced at $£ 14.99$ for the Amstrad disk and will be available from mid-April.


## TASWORD 6128

The Word Processor - with Mail Merge
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TASWORD 6128 has been specifically developed to use 64 K of memory as text space. This means a text file can be a massive 60,000 characters in length, enough room for over 10,000 words! Featuring all standard and many extra word processing facilities TASWORD 6128 incorporates sophisticated print options, on-screen help, notepads, user definable keys allowing commonly used words, sentences or paragraphs to be typed with a single keypress and a powerful built-in data merge facility. Extensive customisation facilities allow many of the facilities to be changed for personal requirements and saved into the program. By combining power with ease of use TASWORD 6128 is the complete word processor for the CPC 6128.

Disc $£ 29.95$

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The Word Processor - with Mail Merge
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[^1]

## Please <br> leave a

 messageafter the
tone. . .!

ACTIVISION UK Ltd have recently installed a recorded message answering machine in a bid to increase their customer support. The 'brainchild' of their Consumer Relations Co-Ordinator, Julie Barwock, it provides the chance, if dialled before 2.00 pm , to hear the latest hints and tips on gameplay and software, as well as news of forthcoming releases. Customers with a specific enquiry can speak to Julie herself between the hours of 2.00 pm and 6.00 pm in the same number. According to an Activision Press Release, Julie's appointment is part of their wish to provide the consumer with an efficient and helpful support service where customers can obtain more information on their products. This is also deemed to encompass up to the minute information on products produced by Activision's American affiliate publishers Sierra-On-Line, Infocom and Micro-Illusions.

The Activision recorded message answering machine is obtained by dialling Reading (0734) 311003.


## Pinball Wizard

ELECTRIC Distribution have recently announced the April release of Timescanner, a SEGA arcade conversion, described as "The ultimate in pinball."
The game involves negotiating four pinball runs, which are only accessible through timetunnels; complete with realistic tilt and nudge features, as well as the possibility of playing three balls simultaneously with up to six flippers at any one time.

Timescanner is available, for the Amstrad, in either cassette or disc format priced $£ 9.99$ and $£ 14.99$ respectively.

## Popularity push

THE UK's top Entertainment Software Publishers have agreed to launch a new association aiming to radically change the face of the British home computer industry. By attempting to improve the popularity of computer games, the newly formed Entertainment Software Publishers Association (ESPA) will extend the present games market to provide a more generous choice and easier accessability to better products.
It seems that television and newspaper advertising will play an important role in reaching a wider public, parents in particular, especially around such peak market times as Christmas.
The association also intends to work closely with bodies such as FAST, on wiping out software piracy. Currently software piracy costs the industry millions of pounds which is to the disadvantage of everyone a most of the lost revenue would otherwise be spent on product development.

ESPA was originally conceived by Simon Treasure and includes US Gold, Ocean, Mirrorsoft, Elite, Virgin/Mastertronic, Grand Slam, Hewson and Alternative among its members with pledges from a number of other companies. If everything goes according to plan the association should prove to be a powerful force within the games market and could consequently absorb any surrounding competition into its membership.

# A plethora of Ninjas 

VIRGIN Mastertronic are soon to release, on their Melbourne House label, a game entitled, Shinobi master Ninja. It has been based on the ancient martial art of Ninjutsu and will be available for all major 8 bit computers. Even as a Master Ninja, complete with the martial arts weapons shuriken, sword and nunchuka your task is a tough one.

The Ring of Five, a terrorist network led by five particularly nasty Ninjas, have committed a naughty deed and kidnapped the children of the World's leaders. Each child is held captive in a different location around the world and guarded by killer karate thugs.

As a Government undercover agent your task is to locate and rescue the hostages, and in the process do battle
with not only the henchmen but also a member of the Ring of Five - the ultimate chance to prove that you really are The Master Ninja.

In a unique marriage of computer games and pop music, level three of the Sega version of Shinobi was recently featured as a backdrop in the video for Depeche Mode's latest single, 'Everything Counts'.

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Multace can handle all these Multhace can
second thought

That alone would have sansfied many people, but Romantic Robot has gone one step further, incorporating a memory eds tor No program is safe with this every thung is out in the open, including the z80 registers. CRTC data and any part of memory

Don't be fooled anto thinking this will result in mass piracy, however The Mult face unit itself must be plugged into your Amstrad to allow reloading of a program 1 saved

Multiface II must be the cleverest hard. ware device at present - a necessity for disk owners who thought they were stuck with loading from tape every tume


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b). Sky dive into Moscow shouting "I'm an Urban Terrorist!"
c). Be in a
gemuine computer
game.

If you answered $a$ or $b$ you should be ashamed of yourself. If c was your reply then read on, as $\mathbf{A C U}$ and AUDIOGENIC offer you the unique chance of fulfilling your wish.

Coming our way in July is the latest license from Emlyn Hughes, and to celebrate the occasion we are giving away the chance of a lifetime. The game involved is Emlyn Hughes Arcade Quiz, which will test your wit on all sorts of general questions. This is where you come in...

What we require is for you to invent the questions (novel, eh?) and every question that is chosen to be included in the final piece of software, will win it's author

a copy of the game (upon it's release, of course).

The main prize, though, is reserved for a question that is so mindboggling in it's structure that it hails as the best of all. This special submission will win a chance to meet the Crazy Horse himself, when he will present the winner with a signed football and a copy of the game.

All you have to do is submit a 60 character (including spaces) original
question, with three answers (of the $a, b$, or $c$ format) each of which being no more than 16 characters. They should be written on a postcard and sent to: Beverly Gardner, Emlyn Compo, Audiogenic Software Ltd., Winchester House, Canning Road, Wealdstone, Harrow HA3 7SJ.

The closing date is $\mathbf{3 1} \mathbf{s t}$ May, so get them entries in now!

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Killing machine John Cook plugs his old company, Mirrorsoft, before getting down to business with Metal Hawk.

Hello again from the weird depths of the Neon Zone where pacifists are rare and spare 10 p's rarer still!
Tell you what - anyone remeber Tetris? It was a puzzle arcade game released by Mirrorsoft about a year back. Come to think of it - I should know. I was part of the team that discovered it (Are you still on commission John? Ed)!
Cast your mind back - if you remember it involved rotating and manipulating random shapes that came down from the top of the screen and was invented by some clever Russian people. Yes!

You had to try and make full lines across the screen with the blocks, which would then disappear. Otherwise you'd have all the blocks piling up to the top of the screen and the big 'Game Over'. It's out on budget at the moment and well worth the money at five times the price (You are on commission! Ed).


- 'Nam was never like this.

appearing just where you don't want them. And an advancing playfield - just like in Super Breakout, if you go back that far.

Now, the odd few Tetris purists have found some of these changes

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ARCADES
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not at all to their liking. But as a Tetris veteran, I found the new feature a real challenge, especially liking the way you (when playing two player) have to race against your opponent to finish the levels first to collect a hefty bonus.

A real antidote to all those Nemesis clones and beat-em ups, it'll be very interesting to see the kind of business Tetris does long term... they're certainly queueing up to play

## enemy.

Before you start, there's a screen that gives you the strategic view of the whole campaign area - pretty, isn't it. Pretty hostile too, as you quickly find out.

You have two controls at your disposal. One lever on the left side of the console that changes your altitude - this change being shown by zooming in and out of the background.
at the moment.

Once every few months or so, a real blockbuster of a game comes along - a game that you know is going to sweep the nation and appear as a really bad coin-op conversion on the CPC six months later!

Well, the latest of this game has to be Metal Hawk from those clever Namco people. Namco is building themselves one hell of a reputation at the moment. Final Lap. Winning Run. Now this.

This happens to be a development of a previous game that was a cracker in its own right - Assault. This was a tank game launched by Namco last Autumn, which put its Atari contemporary Vindicators to shame.

The big feature of this one was that the central tank spite remained more or less stationary in the centre of the screen, while the whole of the background and enemy sprites scrolled and rotated as you moved, expanded and compressed as you used the Super Ramps to momentarily rise into the air and bomb the hell out of the enemy. All this was done realtime. Impressed? You should be. Try asking a programmer to rotate a 32 colour screen at any spreed and watch him turn green.

Assault was great, but Metal Hawk shows that they were only practicing. In this you fly a heavily armed helicopter with a mission to, single-handed (although you do have the advantage of three lives), create havoc with an unspecified


- Where's the killing then?

The main control is a central joystick that'll move you around the place. . . and on it is also the all important fire button. You only have one sort of weaponry - but it's deadly high explosive missiles.
As you start out, the onboard fire control system will point you towards your first target by placing a big arrow centre stage for you to follow. Likewise it will also give you pertanent advice about changing your altitude. You know. Complex stuff like, 'UP' and 'DOWN'.
Follow these and you'll find, far below, a target of some sort being outlined by a flashing cursor. It might be a small torpedo boat. It might be part of a massive battleship or a terrestrial installation. Whatever it is, dive down and blast away.
To complete each section, you have to blast a quota of stuff - and your progress towards this is shown by the fraction displayed on the top/middle of the display. To the right of that, there's a timer that you have to be very much aware of. You are under a strict time limit to finish the level and will lose a life if you go over.
It's not just a matter of zooming from target to target either - you are incessantly bothered by enemy fighter jets and helicopters that home in on your position. Avoid!
Combined with a very energetic sit-in unit, Metal hawk is a sure-fire winner. Go down to your local arcade now and give it a try . . . but be prepared to queue!

## SHOCK NEWS

William is back with a Miami Vice theme and a 32-Bit processor to shift all that memory about. Pass those shades, Daddy!

A new Super Sprint-like racing game from a new company - the American Leland Corporation. It's Off Road action with humps, bumps and lumps for up to three players. Rev it up!


Those Ikari Warriors are at it again, depicted with sprites bigger than ever. They either eat three Shredded Wheat or drink Carling Black Label.


Double Dragon with more moves than ever before means that this one has a slow learning curve. Expect to spend big money before you impress the crowds with this one.

That's it for this month. Next time we'll be taking a look at the follow-up to the most successful coin-op on home computers ever - Turbo Outrun. 'Till then . . . do it to those aliens before they do it to you, kid!

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Way back in the annals of time February - I put Siren Software's $3.5^{\prime \prime}$ disc drive under the Micro-Scope. If you remember, and even if you don't, I said that the drive has an 800 k storage capacity which, although using both sides, appears to the user to be on one side only - the 'megadrive'. I also mentioned the need to have one of the alternative disc operating systems to make use of its large capacity. Since there are several magadrives available for the CPCs, like the $5.25^{\prime \prime}$ ones from KDS and Pace and the $3.5^{\prime \prime}$ from Microstyle, we'll take a close look at the operating systems needed to run them to see what they do and if there are any differences between them. The Rodos system, from Romantic Robot, and the ROMDOS system, from KDS, are both rom based and must be fitted to a romboard, while RAMDOS is the disc based version of Romdos.
The main functions of the two systems are to get more storage space out of our $3^{\prime \prime}$ disc drives and to allow the use of 80 track and double sided types. Amdos will happily accept other sizes, $3.5^{\prime \prime}$ and $5.25^{\prime \prime}$, but can only use 40 tracks and one side at a time.

## COMMON FEATURES

For starters, both systems will increase the capacity of standard $3^{\prime \prime}$ discs, in the Amstrad 40 track drive, from 180 k to 200 k per side. The drives are single sided so the megadrive format won't work. Both systems are invisible to the user in that they will recognise discs using either their format or Amdos without being told. They will each format and use single and double sided 80 track drives, whether $3^{\prime \prime}, 3.5^{\prime \prime}$ or $5.25^{\prime \prime}$. Note that some double sided drives cannot be used in the megadrive way so, before you rush out to buy one, be sure you know what it is. That covers the similarities, now for the differences.

## ROMDOS (Ramdos)

Perhaps the most significant feature, unique to this system, is its ability to work in CPM 2.2 and CPM + . To be precise, it is Ramdos, on disc, which works in CPM but, since the disc is supplied with the Romdos rom anyway, we can have our cake and eat it. The manual supplied contains full instructions on how to modify the copy of the CPM system disc to run Ramdos from it. If CPM is big in your life, and you fancy the greater disc storage space, then this one is for you.
The system is not limited to CPM and, naturally enough it works very happily in its N

## MICRO-SCOPE Rodos, Romdos or Ramdos



## $U T \mid L I T Y$

own Romdos environment. Another major plus for it is its extensive range of user options when formatting discs. Fully menu driven, the choices offered include such things as number of tracks, sectors per track, single or double step, one or two sides, 64 or 128 directory entries and such details as setting the block shift factor, extent mask and freeze flag, whatever they are. In fact 27 different choices can be made so that the user can invent his own format. Pretty nifty, huh? Users of the cable which switches drive B into the A position should note that this system cannot read drive A as having more than 40 tracks.

## RODOS

On the other hand, the RODOS system cannot work in CPM and its extra formatting options are limited to the number of sides and the number of tracks. What it does do is allow up to 800 k on both A and B drives, providing a megadrive is switched in to the A position, and up to 200 k on the Amstrad drive. Unique to Rodos is its MS-DOS like tree directory system. Briefly, this means that files can be saved in different directories on the same disc. Text files in one, games in another, and so on. Even these sub-directories can have sub-directories, so the Text directory could point to others such as Begging letters, Auntie John is my hero letters, etc.
That about completes the disc operating system comparison, but there's much more to Rodos than that. Space won't permit me to go into too many details about the 58 (that's not a misprint - I did say 58) bar commands available so I'll mention a few of the more significant ones. PRBUFF allows

a background printer buffer to be set up which will continue printing while the computer is used for other things. FORMAT allows a silicon disc to be set up on a 6128 or 464/664 with additional memory. Roms can be turned on and off and have their priorities and commands changed. Disc sectors can be read, modified and written back to disc - even MS-DOS discs, 40 track discs can be read on 80 track drives and files can be erased or renamed. These are a few of the many utilities built into Rodos. Protext users please note that files cannot be successfully saved to a Rodos formatted disc straight from Protext although they can be saved in Amsdos with Rodos operating. The way round it is to save them in Amsdos and then copy them to a Rodos disc.

Both systems perform their DOS task well and, for the main part, without the user being aware of their presence which is how it should be. In choosing between them the main considerations seem to be whether CPM is important or not, whether a or not romboard is owned, the Protext factor might be significant, the utilities should also be considered and do you really want to hide your Auntie John fan mail in a sub directory?

ROMDOS at $£ 34.95$ and RAMDOS at $£ 24.95$ are available from KDS Electronics, 15 Hill Street, Hunstanton, Norfolk, PE36 5BS. Telephone: (04853) 2076.

RODOS at $£ 29.95$ is available from Romantic Robot Ltd., 54 Deanscroft Avenue, London, NW9 8EN. Telephone 01-200 8870.

| ROM 2:RODOS ROM | 2.15 b |  |  |
| :---: | :---: | :---: | :---: |
| CLS | DISC | DISC.IN | DISC.OUT |
| DISK | DISK.IN | DISK. OUT | A |
| $B$ | DRIVE | USER | DIR |
| ERA | REN | FORMAT | MKDIR |
| $C D$ | CAT | TITLE | RANDOM |
| POINT | MOTOR. ON | MOTOR. OFF | OPT |
| BPUT | BGET | FS | SAVE |
| LOAD | EXEC | READSECT | WRITESECT |
| LINK | RMDIR | ERADIR | RM |
| EB | LS | MD | C |
| INFO | LIST | DUMP | IAP |
| ROMS | CLI | TDUMP | SPOOL |
| PRINT | PRBUFF | ALIAS | ASKRAM |
| POKE | PEEK | HELP | DO |
| ACCESS | COPY |  |  |

- Commands listed using Rodos' own 'ITDUMP' utility


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First letter out of the bag this month comes from David Howse, a 464 owner from Oxfordshire. He has a Multiface II and DD1 hanging from the back of his machine, and is looking to add even more to it. He asks about extending the leads, and he has run out of room to fit everything in.;

Well, as a general rile, the Disc Drive Interface should be as close to the port as is humanly possible, as otherwise it can be temperemental and refuse to work correctly. There is an added snag here in that David (good name that!) obviously has the DD1 chained after the Multiface, since the interface has no through connector. He's
> "The Disc Drive Interface should be a close to the port as possible."

going to have some difficulty in attaching anything else other than between the port and the drive, which is going to make matters worse. However, a solution may be at hand which will keep the disc interface snug to the back of the computer, and still allow for some more peripherals to share the port.

What's needed is another 50 way cardedge IDC connector (like the connector on the Multiface), and a card-edge connector to card-edge connector card. And as Jimmy Young might say, "This is what you do!". Take the Multiface and unscrew the bottom plate. This should allow you to remove the Printed Circuit Board (PCB) and fold the ribbon cable back on itself, so that it comes out of the back of the box when the PCB is placed back inside it. Put the bottom back on, just to prevent any damage to the PCB and its chips (you might like to marvel at the superb construction while you're at it).
OK, now for the tricky bit. You'll need to remove the original card edge connector, but remember which side of the ribbon the connector sits. Move it down the ribbon (towards the Multiface) by 13 mm (about half an inch) and re-install the ribbon. This takes some time and patience, and is best done with a vice to squeeze the two halves of the connector onto the ribbon. The next part is easy, because you're going to do more or less the same with the new edge connector. This time, though, you must fit it on the other side of the ribbon cable.

This is vitally important, so I've drawn a diagram to show you exactly how the finished job will look. The two edge connectors should sit snuggly together so that the bottom one supports the top one. Having done that, reassemble the multiface as it was, making sure everything is secure. Now when you plug the
original connector onto the port, the second will sit on top of it, and the extender will slot into it to give you a duplicate port. I would suggest that the DD1 plugs in here, and any other peripherals go on the Multiface expansion connector. The card-edge

## "The latest Mannesman Tally MT81 seems like a very good buy, like the Citizen 120D."

connector and extender are available from Tandy or RS, and shouldn't set you back more than a couple of quid between them.

Paul Easter from Mitcham has finally seen the light and come to a 464 from a BBC Master, via a sixteen bitter, and asks what the best deal on a printer for his new Arnold is. He's also wondering about the KDS 8 bit printer port. Paul, it's very much a case of how do you like your eggs, and how much have you to spend? The latest Mannesman Tally MT81 seems to be a very good buy, like the Citizen 120D. Both retail for around the $£ 150$ mark, and each has its merits. If you want to stay all Amstrad (and there's no reason why you shouldn't), the DMP2160 is a nippy printer, though I must say that the NLQ isn't quite to my taste. Nonetheless, my

DMP2000 has given sterling service for two years now, with nary a glitch nor sign of complaint, and it has taken a bashing in that time.

Since even with the new boards Amstrad haven't put an 8 bit parallel port into the CPCs , I would think the KDS port is a worthwhile investment. Think carefully how much printing you intend to do, though, as if you don't intend to use the extended character set, it may not be worth your while. Come to that, if you're looking at characters with ASCII values above 127 , perhaps the DMP3160 might be the better printer for you. You pays yer money. . . . . .

## And more 8 bit porting

Which brings me neatly to R. Jackson, a very formal chap (chapess?) from Northampton, the proud owner of a
 464 with twin disc drives, a DMP2000 and Protext and Utopia on ROM. He tells me he needs to produce league tables for a local winter games league, but is having difficulty drawing boxes in Protext. I've come up with a number of possible solutions for this one, which I'll tackle hardest first!

Firstly, the cause of the proble, as R. (I can call you R., can't I?) rightly said is the inability of the CPCs to output character values higher than 127 through the 7 bit printer port. One solution, then is to redefine your least used characters to give you the symbols you need on the printer. While you're at it, redefine the screen symbols accordingly, then What You See Is What You Get. All of this is possible under Protext.

Alternatively, Qualitas from Seven Stars allows you to redefine characters very simply, and even design your own character sets which will sit alongside the normal ones. A KDS Printer port certainly enhances the output more than somewhat in this case. The third possible solution may or may not work, but I understand that the only real difference between the DMP2000 and the DMP3160 is the ROM. If this is so, then replacing the DMP2000 ROM with a DMP3160 ROM will give you access to the IBM extended. character set, which is exactly what you need. The people to contact about this are at CPC (Combined Precision Components) who, I believe advertise in this magazine.

The final suggestion I have is to draw the boxes out in indian ink using a ruler on paper (how hi-tech), and photocopy the required number of sheets. Then all you need to do is set up your documents in a template under Protext, and make sure that the paper
is always correctly aligned in the printer. Not very elegant, I know, but it is the simplest solution, and I can vouch that it works!

## Home Finance Program

A. Entwistle, a 6128 owner of the parish of Cardiff writes to tell us that he has been using HFP for

## VISA

 some time, though has had to cope with some odd little quirks due to its refusal to handle files containing more than 500 records. In a second letter, he says that Datavise, the firm that produced the program, has 'gone away'. I've tried to track them down myself, with no success, in Castle Wellan, Northern Ireland. Rather than leave A. (who is as formal as R.) high and dry, I'll return to this in a later column when I've had more chance to get to the bottom of it. I still don't understand parents who christen their children only with initials!
## A visit to MacDixons makes your day

They don't do it in Bonnie Scotland, though, which is where Mark Geddes hails from. He's got a Shinwa CPA80
 printer that he wants to use with his 6128 . It was originally used with his Lynx 96 k , and comes fully equipped with a Centronics port, but he's not sure about the lead. No problem here. Dixons stock the item you need in two versions, one of which has all 25 lines connected. This is the one that needs pin 14 insulating or cutting (I prefer the insulating tape myself) to prevent the notorious double line feed curse. The other is probably better in that pins 14 and above don't seem to be connected at all. It's recognisable by the fact that the ribbon cable is much narrower than either connector, and also because it's a few bob cheaper!

## FRIED EGGS ON THE PHONE

In another place, I've had a few queries about line noise affecting data transfer via modems,
 and any possible cures. Some folk have asked whethr it is worth while approaching BT and asking them to sort the line out for
them. The stock answer that I've had from all levels of the BT hierarchy is a definite maybe. It transpires that BT is under no obligation to provide perfectly noise free lines for modem use, unless they are dedicated data lines. These are normally point to point, though part of the normal network, and are known as leased lines. On the normal domestic line, the quality must be good enough for intelligible speech, and the odd fried egg and sausage interrupting the call, it seems, falls within the definition.

There may be a widgit that can help in the persistently noisy situation, but at the moment, not even the manufacturers are sure. It is marketed as a telephone line transient suppressor, and is actually designed to protext faxes and modems from high voltage surges such as you might experience during lightening storms. As a by-product of this, there is the possibility that it could significantly reduce the random pops that are the bane of the comms enthusiast's existence, and thus diminish line noise. I'll not know until I've put the device to the test (and boy have I got some noisy lines to try it out on), but if it proves to be successful at reducing noise, I'll let you know.

The other hazard modem users face is the faint signal that the modem can't lock onto. According to my tame BT engineer, this kind of thing shouldn't occur, but I can confirm that it does with a vengeance. Unfortunately, it seems to be caused by calls being routed through a few more exchanges than they need to be while the network is converted to System X exchanges. The longer the distance the call has to travel, the less loud the signal becomes, until it is more or less useless.
> "It's about time they put another dish on the Telecom Tower."

Believe it or not, I have this problem with the BBS new where I live, in fact only a local call away, yet people on the same exchange have no problems with it. Come to that, callers to the system from foreign parts have no bother either. It turns out that my call from Sunderland goes to Newcastle via Bristol and another unnamed city. So, until system X is fully implemented, it looks like some modem users will be inconvenienced for a monitory of calls. It's about time they put another dish on the Telecom Tower, don't you think?

That's it for this month, keep the letters rolling in!

# Play It By Ear 

The Amstrad CPC manual devotes a fair amount of space to the sound command without exactly explaining how to get the machine to play a piece of music. Hopefully this brief guide will be of some help to budding musicians, and illustrate how to produce reasonable music from your CPC without having to spend money on a professional package.

## YOUR FIRST NOTE

At its simplest, a sound is produced on the CPC by playing a note of a specified pitch and duration on one or more of the three voices, or channels, built in to the hardware. This is done with the command

## SOUND c,p,d

where c is the required channel number, p is the pitch of the note (more of this later) and d is the duration of the note in $1 / 100$ ths of a second. Thus, the command

SOUND 1,478,100
will play a sound of pitch value 478 (which happens to be middle C ) on channel number 1 for one second.
The three channels (called A, B and C in the CPC manual) are referred to in the SOUND command as 1,2 and 4 respectively. Their numbers can be added to send a note to two or three channels together, e.g. try

SOUND 6,478,100
This will play middle C for 1 second on both channels B and C $(2+4)$ simultaneously and will be louder than the sound produced by the previous example.

## NOTE VALUES

The reason middle $C$ is represented by number 478 is that this is derived from the frequency of the note in cycles per second (Hertz). In the depths of the user manual (Appendix VII for the 464 ) you will find a table of all the note values ranging over eight octaves, and an explanation of how these are derived from their frequences. Suffice to say here that the higher the note, the lower its numerical value in the SOUND command. You will also note from the table that each

## Rod Shaw tinkles with his Amstrad.

increase in octave roughly halves the numeric value of a note.

To illustrate all this, if you enter and run the following program the CPC will play the theme from a well-known sci-fi film on all three channels:

10 SOUND 7,213,30
20 SOUND 7,190,30
30 SOUND 7,239,30
40 SOUND 7,478,30
50 SOUND 7,319,90

## RUN

All well and good, but we really need to be able to play different notes together so as to reproduce chords, accompanying bass lines, etc., i.e. to send different SOUND commands to the individual channels to be played simultaneously. The following program will play a chord of C Major:

10 SOUND 1,239,200: 'Play C on channel A 20 SOUND 2,190,200: 'Play E on channel B 30 SOUND 4,159,200: 'Play G on channel C

## RUN

## VOLUME

By adding a fourth parameter to the SOUND command, we can specify the volume of the note from 0 (no sound useful for rests) to 15 . The default volume is 4. An example would be

SOUND 1,478,100,14

## SYNCHRONIZING

.The notes in the C major chord sounded simultaneously on the three channels even though the CPC had to read the SOUND commands one after the other. In many cases, alternating channels in quick succession in this way will be all that is required to synchronize the notes because of the CPC's speed, with rests achieved by specifying a pitch and volume of 0 .

However, interpreting the SOUND commands can be slowed down if evaluating
the parameters involves lengthy calculations or other processing is going on while the music is being played. Another technique can be used which ensures that the notes are synchronized and also can eliminate the need to specify rests. This involves adding a number to the channel value to force the note to play only when a note is also sent to another channel, i.e. to coincide or rendezvous with that channel.

Rendezvous values are 8, 16 and 32 for channels A, B and C respectively. Thus to play a note on channel $A$ to rendezvous with a note on channel B the SOUND $1, \ldots$ command would be changed to SOUND $17, \ldots(1+16)$. To force a note on channel B to rendezvous with channels A and C ,


## $M \cup S \quad I \quad C$

SOUND 2... would be changed to SOUND $42, \ldots(2+8+32)$.

## THE SHAPE OF A NOTE

A note played on a musical instrument usually fades away towards the end of its duration. Thus if the same note is played twice it is clear when the first one ends and the second one starts. Not so with the CPC; try the following:

10 SOUND $1,468,100,7$
20 SOUND $1,478,100,7$
30 SOUND $1,478,100,7$

## RUN

The result is one long note.
To get round this, either a rest can be added after a note by specifying a volume and pitch of 0 , or, more elegantly, a note can be given a volume envelope, i.e. a way of varying its volume while it is playing. This is specifided with the ENV command, e.g.


## 5 ENV $1,1,0,50,10,-1,5$

ENV 1 specifies envelope 1 . This will play one step (1) of unvarying volume ( 0 ) for $50 / 100$ ths of a second ( 50 ), then tail off by playing 10 steps, each decreasing the volume by one unit ( -1 ) and each having a duration of $5 / 100$ ths of a second. Thus the envelope will have an effect for a total of one second.
Attach this to the SOUND command by adding a fifth parameter, the envelope number:

10 SOUND $1,478,100,7,1$
20 SOUND 1,478,100,7,1
30 SOUND 1,478,100,7,1

RUN
This starts the volume at 7 . The volume of each note is constant for half a second and is then gradually reduced by the envelope.

Generally it will be adequate to tail off the volume for only the last $1 / 5$ or so of the note, or perhaps the last $1 / 4$ for a staccato effect. Of course, it is also possible to start a note off quietly, build up its volume and let it die down again. As an exercise, try altering the ENV command in the example above to do this, keeping the total length of the envelope to one second.
The envelope and note lengths do not have to be the same; if the note played is shorter than its associated envelope, the remainder of the envelope is ignored. Alternatively, of the envelope 'runs out' while the note is playing, any volume specified in the SOUND command is picked up again.

In all, five sets of three parameters each can be specified in the ENV command, making possible quite intricate note shapes.

Listing 1 plays a short snatch of music and illustrates the points covered so far. Note the extensive use made of the rendezvous facility, and that the envelope settings are continuously altered depending on the note lengths, so that the time spent by a note fading away is always in proportion to its total length.
Try altering the envelope settings in the listing, ans also the values of PT and TEMPO in line 10 to change the key and speed.

If you have tried out all the examples given you should now have a reasonable idea how to get your CPC to play music. The best thing you can do is to build on these basic ideas until the result is what you want.

## SOUND EFFECTS

There are two eays of producing sound effects, with a tone envelope and with white noise.

The tone envelope (ENT) works in a similar way to ENV described above, except that it varies the note's pitch while it is playing rather than its volume. To activate a tone envelope its number is added as a sixth parameter to the SOUND command. In this way it is possible, for example, to produce vibrato effects.

White noise can be added to a note, or played instead of a note, by adding a white noise value between 0 and 15 as a seventh parameter to the SOUND command.

Again, the best you can do to appreciate the effects of the ENT command and white noise is to experiment.

## NOT THE END BY A LONG WAY

The brief guide given above will be adequate for those with the relevant musical knowledge to produce satisfactory music from the CPC. There are further ramifications to the SOUND, ENV and ENT commands, and also other soundrelated features which have not yet been

## ". . .takes away much of the slog. . ."

covered, such as holding and releasing notes, and enquiring on the status of the sound queue. When you have mastered the principles outlined above, you should be in a position to read up on these subjects in the manual should you need them.

Finally, if you think all the above is still hard work, I have to admit I agree with you. The Working Amstrad, by David Lawrence and Simon Lane (Sunshine Pub., £5.95), contains a simple music compiler which takes away much of the slog and which I can recommend.
$10 \mathrm{pt}=2 \mathrm{tempo}=18$
20 READ chan,pit,dur
30 WHIIE chan $>1$
40 ENV 1,1,0dur*0.8*tempo5;-ldur*0.04**empo
50 SOUND chan,pit/pt,dur*tempo15,1
60 READ chan,pit,dur
70 WEND
80 DATA 49,179,30,42,213,30,28,536,20,4, 358,20,1,159,10,33,179,10,12,268,20,1,190,10
90 DATA 49,201,40,42,239,60,28,638,20,4,358 20,33,159,20,12,284,20
100 DATA $49,179,20,42,213,20,28,536,20,49$ 134,80,42,213,80,28,358,20,4,268,20,4,426,20 4,358,20,33,142,10,12,268,20,1,134,10
110 DATA $49,106,20,42,190,60,28,478,20,33$, $119,40,12,319,20,4,268,20,49,159,40,42,201,60$, 28,478,20,4,402,20,33,142,20,12,284,20
120 DATA $49,134,100,42,213,100,28,536,20,4$, 58,20,4,268,20,4,536,40
130 DATA -1,1,-1

## HACKING <br> HAIRY HACKERY

Sizzling action with the man in denim. Just don't let Edwina find out!


Welcome to the humble hackery (bows deeply, and stumbles painfully on discarded lego brick). This month, we'll wheel out the stuff that didn't make it last month (blimey, sounds as bad as re-heated fried eggs like that, doesn't it?), and some helpful bits from the latest mailbag. You may notice a different style of printing out again, und ve vill change zem again und again until ve get it right. Or, alternatively, I'll fix my PCW printer one day. Just one free day without a dead line approaching, it's not much to ask for, is it?

## PRESSED FOR POKES

Propped up on the remnants of said printer, we have the scribblings of one Colin Taylor, purveyor of fine keystroke pokes to the gentry in Enfield. You know the thing, keypresses like 'If you hold down DIESCUM in this game, your warrior goes purple, breaks wind, and flies. 'Still, he's got three on his list, and don't ask me where he got them from 'cos he didn't say.

First one on his list is the Imagines' Arkanoid (Revenge of Doh). You ned to hold down SHIFT, and then

T,A,I \& O while on the title screen, and the border changes colour. Not only that, but when you whack the ESC key during your attempts to play the game, the exits will appear. Sounds a bit like cheating to my innocent self.
If you're one of the unlucky people who are botching about how difficult Bulldog's Destructo is, are being hounded by onlookers, or are finding the going a bit ruff, the following will have you bright-eyed and bushy-tailed in no time: Paws the game, hold down the shift key with your hind leg, and type CAVE-CARNEM (beware, dogs. It's latin you know. Wonder what latin for poke is, jabus?). Next time you pause, hit $Z$ and you'll find yourself on the next level.

Also handy is an electrifying keypress poke for those re-volt-ingly bright sparks who bought Ocean's Short Circuit (I though Short Circuit was a budget racing game, until I discovered Smirnoff. . .). Your wee robot can be raised to the second level if you just hold down O,C,E,A \& N . Wonder how they picked the letters? Anyway, Colins letter got picked, and though I can't guarantee a copy of Cascades for your efforts, I'm sure that the Ed will find something for you. Keep 'em coming folks!

## KEEP ON DRINKING

Try this clever little twist for the Bard's Tale (disc). You need a disc with a saved party on it, so they can become super powered.

```
1
2
THE BARDS TALE I
100
110 DATA 40,21,C8,90
120 DATA CD,77,BC,21
130 DATA E1,O3,CD,83
140 DATA BC,CD,7A,BC
150 DATA O6,06,21,C6
160 DATA 04,C5,E5,06
170 DATA OO,7E,11,38
180 DATA 00,19,FE,O1
190 DATA CA,A9,90,FE
200 DATA 02,28,7E,FE
210 DATA 03,28,7A,FE
220 DATA 04,28,76,78
230 DATA 32,C7,90,E1
240 DATA E5,11,14,00
250 DATA 19,3E,01,77
260 DATA 11,10,00,19
270 DATA 77,E1,11,30
280 DATA OO,E5,19,16
290 DATA 05,3A,C7,90
300 DATA 87,06,04,80
310 DATA 47,72,23,10
320 DATA FC,3A,C7,90
330 DATA FE,OO,28,OF
340 DATA 3E,07,E1,E5
350 DATA 11,40,00,19
360 DATA 06,04,36,07
370 DATA 23,10,FB,E1
380 DATA C1,11,65,00
390 DATA 19,10,A2,06
4 0 0 ~ D A T A ~ 0 8 , 1 1 , 0 0 , 8 8
4 1 0 \text { DATA 21,C8,90,CD}
4 2 0 ~ D A T A ~ 8 C , B C , 1 1 , 1 C ~
4 3 0 ~ D A T A ~ 0 0 , 1 9 , 0 6 , 1 0
4 4 0 \text { DATA 70,23,10,FC}
450 DATA 3E,03,01,00
4 6 0 ~ D A T A ~ O O , 1 1 , 4 4 , 0 3
4 7 0 \text { DATA 21,E1,O3,CD}
4 8 0 \text { DATA 98,BC,CD,8F}
4 9 0 ~ D A T A ~ B C , 2 1 , A D , 9 0
500 DATA 7E,23,B7,C8
510 DATA CD,5A,BB,18
5 2 0 ~ D A T A ~ F 7 , O 6 , 0 2 , 1 8 ~
530 DATA 86,OC,1E,18
540 DATA 20,28,43,29
550 DATA 20,4E,69,61
5 6 0 \text { DATA 6C,6C,20,42}
570 DATA 72,61,64,79
```

```
5 8 0 ~ D A T A ~ 2 0 , 1 8 , O D , O A
5 9 0 ~ D A T A ~ O A , 0 7 , O 0 , O O ~
600 DATA NCB
6 1 0
620 MODE 2:chk=0:x=&9000:MEMORY }x-
630 READ a$:IF a$="NCB" THEN 650 ELSE
a=VAL("&"+a$)
640 POKE x,a:x=x+1:chk=chk+a:GOTO 630
650 IF chk<>&42B7 THEN PRINT "DATA
ERROR.":END
6 6 0 \text { PRINT"Put the Party DISC in the}
drive"
670 INPUT"Please enter the name of
the PARTY: ";name$
680 addr=&90C8
690 FOR }x=1\mathrm{ TO LEN(name$)
700 POKE addr,ASC(MID$(name$,x,1))
:addr=addr+1:NEXT
710 x=LEN (name$)
720 POKE &9001,x
730 POKE &9078,x
740 CALL &9000
```


## AGEING ALIEN

Oh, if Oisin Dunne would like to send me a copy of his Alien 8 poke that really does work, I'll probably print it. Hint: You've forgotten 1 call, and a FOR-NEXT loop. My version could not in all honesty be said to be the same as the one you buy in the shops, and if any deity knows where the
original is, I'd love to hear about it. You might want to try my version of the poke, but it dates from my days at Amstrad with Cliff, and things may have changed since then. No guarantees on this one:

10 OPENOUT "d 20 MEMORY 4000
30 LOAD "!alien",4352

40 CALL 4352
50 LOCATE 12,25:INPUT"INFINITE LIVES ?",cj\$
60 LOCATE 12,25:PRINT
SPC(25):LOCATE 12,25:INPUT
"NUMBER OF CHAMBERS",nc 70 LOCATE 12,25:PRINT SPC(25):LOCATE 12,25:INPUT "INFINITE TIME?",ti\$ 80 LOAD "!", \&2000 90 IF LOWER $\$(c j \$)=" y$ " THEN POKE \& 418E, 0 :'infinite lives 100 IF nc<>THEN POKE \&315E, nc :'number of chambers 110 IF LOWER $\$(t i \$)=" y$ " THEN POKE \&2EFE, 0 :'infinite time 120 CALL \& 113E

## GETTIN' RACEY

Thank you, Nicky Jones of Kearsley, for your Enduro Race keypress pokette. Pressing all the keys on the keypad does indeed give your bike more zip than a YKK factory. It is also handy that you don't fall off your bike, even when you ride it through a tree (having attempted this feat once...). I do not, however, appreciate the putative similarity between my name and that of a well-known carpet cleaner. Enuf said.

## Unbeatable value CPC464 CPC664 CPC6128

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12 months of entries are kept in a file stored on yourdisc. At anytime, you may load afile into the computer memory, add to or edit the entries, analyse them, print statements, and then save the updated file for lateruse. Entries maybe historic (for record keeping) or forecast (for budgeting). You may have any number of separate files, and make copies of files for archive purposes. You may advance the period covered by a file month by month.

## Up to 100 separate transactions may be entered per month. Each

 entry consists of:- The day of the month, e.g. 23rd of June.
- An account number, one of up to 9 defined by you to suit your circumstances e.g. $1=$ Barclays, $2=$ Visa, $3=$ Halifax etc.
- Reference, e.g. ABC123 for a cheque number or invoice reference
- A class code, one of up to 50 defined by you to suit your circumstances e.g. $\mathrm{h} 0=$ Household expenses, $\mathrm{h} 1=$ Mortgage, $\mathrm{h} 2=$ Rates or $\mathrm{p} 0=$ Production, $\mathrm{p} 1=$ Raw materials, $\mathrm{p} 2=$ Assembly, p3=Packing, etc.
A description so that you can see what each transaction was for, e.g. "New gearbox" or "Box of 10 discs."
- An optional single character mark which you may include for further classification, e.g. b=business, $p=$ private, etc.
- The amount of the transaction, which may be plus or minus.
- A marker to indicate whether the entry is exempt, zero rated or taxable for VAT, or alternatively the actual VAT paid.

You may select categories according to account, class and mark (e.g. all entries, or all motoring expenses ior business using a credit card, etc.) and produce reports on the screen or printer as follows:
Full detailed statements, showing each transaction for any month or for the whole year.

- Detailed monthly VAT statement showing input and output amounts excluding VAT, the actual VAT and the total amount, plus totals and net VAI due.
- Tables showing the totals in each class for each month of the year.
- Tables showing the totals in each class for each account.

Tables showing monthly maximum, minimum, average balances, turnover, cash how etc.

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Plus: standing orders-entries optionalily sortied into date ordor-item search Full tolity. Cophone supponat.

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| Barbarian 2 Palace ........ 6.95 | 9.95 | Hunchback Adv........... 295 | - | Shadowtire............... 200 | 296 |
| Bards Tale 1............... 7.45 | 10.95 | Hydrotool................. 350 | - | Shadow Skimmer......... 200 | - |
| Barry McGuigan. | 2.95 | Ikan Warricrs.............. 695 | 9.95 | Shockway Rider ...-. $\quad . \quad .{ }^{2} .295$ | - |
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3 Starfighter, Ace Of Aces (Main Program), Acrojet, Advanced Pinball, Alien Highway. Arkanoid, Arkanoid 2, Revenge Of Doh (Main Program), Armageddon Man, Army Moves (18 2), ATV Simulator, Brain Clough's Fortunes, Bary McGuigans Boxing, Basket Master, Batman, Beach Head, Beach Head II, Black Magic-Both Parts, BMX Simulator, Bounty Bob,
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Daley Thompsons Oympic Challenge (Main Daley Thompsons Olympic Challenge (Main Program), Daley Thompsons Super Test, Dambusters, Dan Dare 2,

Desert Fox, Dizzy, Donkey Kong, Elektra Glide, Express Raider, Eye Spy, F15 Strike Eagle, Fighter Plilot, Football (Codemasters), Frankie Goes Hollywood, Freddy Hardest, Fruit Machin Simulator (Main Program), Galactic Games Main Program), Gavan, Game Over (Both Parts), Ghostbusters, Goonies, Grand Prix Simulator, Green Beret, Gryzor (Main Program), Guntright, Gyroscope, Hacker, Head Over Heels, Highlander, Highway Encounter, Hunchback II, Hypersports (Main Program), I
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Version), Jet Bike Simulator (Main Program) Version), Jet Bike Simulator (Main Program), Jet
Set Wily, Juggernaut, Kiled Until Dead (Main

Program), Knight Games (Main Program),Knight Rider, Konami Golf, Kong Strikes Back, Kung Fu Master, Leaderboard, Leaderboard Tournament, Leaderboard Worldclass, Legend Of Kage. eviathan (Main Program), Madballs, Mag Max, Mario Brothers, Match Point, Matchday, Matchday II, Metrocross, Miami Vice (Ocean). Mkie, Minder, Mindshadow, Mission Jupiter, Monopoly, Nemesis The Warlock, Never Ending
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Rambo First Blood ll, Renegade (Imagine) (Main

Program), Rescue On Fractalus, Return To Oz, Revolution, Road Runner (Main Program) Rocco, Sabre Wuif Later Version), Sama Rox Poker, Saracen, Scalextic, Scrabble, , Spy Trek Street Hawk Super Cycle Main spy Trek, Street Hawk, Super Cycle (Main program), Super Hang On, Super Hero, Super Sunt Man, Tent frame, terrormolinos, the Groat Escape, The Race Against Tme, The Way Explocing Fist, Topgun, Transmuter, Tubaruba, Uchimata. V, Vampire, Vxen, Wariock, Winter Ganes, Word Ganes X You Yie Ar Wuno Zoids (Martech), Zorro and many more.

SPEEDTRANS is, without doubt, the best Speedlock transfer utiity on the market today and is capable of transferring more Speedlock games to disc than any of its competitors. TRY IT AND SEE FOR YOURSELFUK $£ 15.00$-- Europe $£ 16.25$-- Rest Of The World $£ 17.00$ Upgrade your Speedtrans Disc-send your disc together with UK $£ 3.00$ - Europe $£ 4.25$ Rest Of The World $£ 5.00$ Upgrade your Speedtrans Tape send your tape together with UK $£ 12.00$ - Europe $£ 13.25$-Rest Of The World $£ 14.00$

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## DMP 2000/2160 PRINTERS

The printer buffer presently in the DMP 200/3000 series is a 2K RAM. Most of this RAM is used by the printer's operating system leaving an average $1 / 2 \mathrm{~K}$ as buffer space. Our upgrade kit contains a new static RAM chip which will increase the printer butifer by 6 (about 4 pages of fext). apgrade allows all Downioad Characters to be re-defined allowing the user to design special characters for use with scienticic and other programs. The kit is supplied with tull pictoria modification (the DMPP2160 takes about 7 minutes). If you don't think you are up to it your local TV shop can do the you dont think you are up to it you

UK £14.50 -EUROPE $£ 15.75$ - R. of W. $£ 16.50$

## FIRETRANS

This utility will transfer a number of FIREBIRD programs from tape to disc automatically including most opening screens in full colour. FIRETRANS will work equally well from tape but will be more convenient to use if converted to disc with SAMSON/Transmat. It will transter WILLOW PATTERN, RUNESTONE, CHIMERA, GUNSTAR, PARABOLA, REALM, SPIKY HAROLD, BOOTY, DON'T PANIC, GUNFRIGHT, STARGLIDER, NINJA MASTER, HELICOPTER, and some version of THRUST, HARVEY HEADBANGER and BOMBSCARE.

TAPE:- UK $£ 5.00$-EUROPE $£ 6.25$ R. of W. $£ 7.00$
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## COMPACTOR

COMPACTOR will allow you to load a standard 17 K screen, set the mode, border and ink colours and then save it as a compressed screen containing its own mode and ink colour information. Most screens compact down to an average of 9K which is an enormous saving on disc space. Loading time of compressed screens is also proportionately reduced. TAPE:- UK $£ 5.00$ - EUROPE $£ 6.25$ R. of W. $£ 7.00$ DISC:- UK $£ 8.50$ - EUROPE $£ 9.75-$ R. of W. $£ 10.50$

## NIRVANA

Have you tried backing up your original expensive disc software and failed? Use NIRVANA before its too late! NIRVANA (meaning enlightenment) is an extremely powerful disc handliing utility which has the following features: Disc to disc back-up copier which will handle most of the commercially protected discs available today. File copier for individual flies. Disc formatter, much easier to use than CPM. Change file attributes. Erase files. Change filenames. Will handle all disc drive combinations

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## UTILITY DISC No. 1

This utility disc contains 5 programs, all menu driven. They are SAMSON, TRANSIT, QCLONE, VIEWTEXT and the fast disc FORMATTER.
DISC:- UK $£ 15.50$ - EUROPE $£ 16.75-$ R. of W. $£ 17.50$ ROM:- UK $£ 17.25$ - EUROPE $£ 18.50$ - R. of W. $£ 19.25$

## SAMSON

SAMSON has been developed by us to transter not only the normal programs but also many of todays where the code is much longer. SAMSON differs in many ways from. other Tape-to-Disc utilities, the main differences being: * be saved as SAMSON SCN) • Improved file relocation be saved as SAMSON.SCN. Improved fie relocation
method. Elaborate Tape-read/Disc-write system which method Elaborate Tape-read/Disc-write system which
reduces Tape Motor, Slave Replay and Disc Drive Motor reduces Tape Motor, Slave Replay and Disc Drive Motor
wear substantially. A large reduction in tape transfer time is also achieved in all but a few cases. NEW "SPLIT" option for todays longer games (we will be using this option in future routines) All file information is displayed on screen and can be echoed to your printer if needed. SAMSON also transter itself to disc.
TAPE:- UK $£ 7.50$ - EUROPE $£ 8.75-\mathrm{R}$. of W. $£ 9.50$

## CHARACTER DESIGNER

(All CPC's)
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Takes all the hard work out of character designing making it a pleasure. The printer part of the program will only work if your printer is capable of DOWNLOADING and is
EPSON EPSON compatible - see your printer manual. Works with
7 -bit or 8 -bit output (8-bit port). All the designing is done 7 -bit or 8 -bit output (8-bit port). All the designing is done
"On-Screen" so you can see exactly what you are doing. "On-Screen" so you can see exactly what you are doing
You can save your newly designed characters to disc and You can save your newly designed characters to disc and
reload them at any time into a basic program and into reload them at any time into a basic program and into
most Word-Processors. The program also allows the user to redefine any or all of the keys on the keyboard. This feature will be usetul for those who require an ASWERTY keyboard. The disc also contins twelve sample fonts for experimentation DISC:- UK $£ 11.99$-EUROPE $£ 13.25-$ R. of W. $£ 14.00$


Tin this month's marvellous Meltdown, what with the good old F.A. Cup just days away (or days ago if this issue came out late). Premier II may be second division material, but at $£ 1.99$ you can hardly complain, while Gary Lineker's Hot Shot looks destined for relegation. There's no doubt that the best footy game around at the moment bears the name of that old stager, Emlyn Hughes. Old Crazy Horse rides again, courtesy of Audiogenic.
It's not just a question of sport though, hack and chop fans will be salivating at the prospect of Barbarian II.

## IN THE NEWS . . .

What's the gossip in the wonderful world of gaming I hear you asking. Well not really, I'm listening to Rattle and Hum on CD at the moment, so I can't hear a thing. Anyway, did you know that the Telecomsoft mob of Rainbird, Firebird, and Silverbird are up for sale at the moment? If you've got the odd quid spare buy them up as ' a prezzy for Christmas or something.
Also, did you know that bulbous Eugene Lacey, ed of $\mathrm{C}+\mathrm{VG}$ is married to the ample head of Telecomsoft, Paula Byrne? It does help doesn't it. Though looking at some of the recent issues it obviously hasn't.
Did you know that Beverley of Audiogenic sent Richard and myselfa Cadbury's Cream Egg in the post. Unfortunately Richard's got squashed by the Post Office franking machine. Mine was nice though.
All this and less trivia next month when I uncover deep rooted corruption in the Vatican and try on a pair of concrete boots while swimming in the Thames.
Meanwhie in this month's knee tinglingly exciting issue:

## CONTENTS

 30 Barbarian IIProbably the best version in the world. Actually, it is, according to Palace boss, Pete Stone, and he should know. Play a large hairy barbarian or a scantily clad young woman with a neat range

## 30 Gary Lineker's Hot Shot

About as hot as Bobby Robson's managerial skills, and about as accurate as Nigel Lawson's budget deficit predictions.

## 34 A Question of Sport

More a question of disease as Richie gets biological. And such a nice boy too.

## 34 Arcade Music

Another compilation, but unlike most of the ones recently, this one stinks. Read the words of wisdom and be warned.

## 36 BMX Simulator II

More from the budget boys, a simulator as usual, and a sequel to boot. Ahh, for originality eh?

## 38 Skweek

Erm, yes. Well, a sort of eat the dots variant with cute characters, but it seems like a decent sort of game.

## 41 Pacland

Erm, yes. Well, a more official eat the dots variant with cute characters, that seems like a decent sort of game.

## 42 Emlyn Hughes' <br> International Soccer

You won't say neigh to this polished offering from Audiogenic and old Crazy Horse Emlyn.

## 42 Crazy Cars II

Ooh, a very impressive version of the completely unplayable ST/Amiga game. Pretty good graphics, and a great deal of fun as well. Pity about the fatal bug that's in there.

## 46 Premier II

Your choice to guide the lads to international success and glory, and nab an M.B.E. while you're at it. Perhaps we should send a copy to Bobby.

## 46 Rockstar

Or to give it its full title, A Rockstar Ate My Hamster. Wild, wacky but a long term loser, or guaranteed platinum sales for the Codemasters crew.

Price: £9.95/14.95
Supplier: Palace Software

## MELTDOWN

Grafix: $92 \%$
Sonix: 65\%
Gameplay: 83\%
Overall: 86\%

## BARBARIAN II

플
ack, chop, slash and mutilate fans are in for a treat as the over the top violence of Barbarian II arrives on your Amstrad complete with all those little touches like head chomping dragons which go together to make a great game.

Unlike most computer games you choose the gender of the leading character. If you choose the princess rather than the barbarian you are in control of a sword wielding amazon who unfortunately bears little


- Big, green and repulsive - sounds like my editor.
resemblance to the rather blubbery Maria featured on the package art work. Well there is only so much you can do with computer graphics these days.

Your task is to battle your way through three landscapes occupied by the minions of Drax thereby reaching the inner sanctum for the final conflict.

The first landscape you must battle

## 1 NFO

Price: $£ 9.99$
Supplier: Gremlin Graphics

| M E L T D O W N |
| :--- |
| Grafix: $76 \%$ |
| Sonix: $64 \%$ |
| Gameplay: $89 \%$ |

## Overall: 78\%

## Gary Lineker's Hot Shot!

Not so long ago a football comic was released. This comic was similar in style to 'Roy of the Rovers' but with the added bonus of Gary 'Open Goal' Lineker's endorsement, and as Gary's England form went down, so did the comic's sales. Now 'Hot Shot' has been merged with Roy of the Rovers and this must have come as a bit of a blow to Sheffield based Gremlin Graphics.

Gary Lineker's defunct Hot

Shot is the latest in a string of releases carrying the England striker's name, and one wonders whether it can be any better than the previous attempts (surely it couldn't be worse). The answer is quite simply, yes. If you have experienced other football games, you'll know what to expect, as it doesn't go all out to alter the norm, just better what has previously been done before. The view is of the same type as Four Soccer Simulators as you look on the action from above, although unlike its counterpart, it only features one match.


Once all the relevant options have been chosen (team name, etc.) it is time to start the match. And what a match it will be. Play flows along at a


- It's a game of two halves and if the ball had have gone in the net it would have been a goal. But it didn't!
happy, care-free pace, with no regard for realism, but fun none-the-less. If prizes were awarded to gameplay, Hot Shot would be in the top three. The whole structure of the onfield action revolves around a strength factor, where the longer the fire button is pressed, the harder the ball is kicked.

This factor is also responsible for throw-ins, corners and other set pieces, such as free-kicks, with the latter being a regular occurrence when I play. Extra little features include the referee blowing for any misdemeaners, and even the dreaded red and yellow cards can make an
your way through is the wilderness. This rather inhospitable zone comes complete with pits, lava streams and smoking volcanoes. As you move through the page flipping landscape in search of the exit to the next level and the magical objects needed to complete your mission, you are guided by a compass at the bottom of the screen. Theoretically this should help you produce a much needed map but due to the fact that regardless of your direction of travel you always move left to right things become a little confusing. Unfortunately you rarely have chance to work out your direction of travel due to the relentless attacks of the monsters.
These beasts of mayhem appear in a puff of green smooke and die in a similar way but this is where the similarity between the monsters ends.

Bald chickens squawk and launch themselves beak first into your character where the slightly larger ape men and dragons come at you with clubs and fangs. As the combat ensues you hack away at your opponents blood or various colours spurts from the wounds. The monsters are far from helpless as they are often better


- Er, where's my head gone? Why has it gone dark?
equipped for battle as they bash, peck and bite the head off your hapless character. The head biting sequence is followed by a bulge sliding down the
dragons throat. You can of course respond with your own neck severing manoeuvre, providing of course the creature is person sized.
This is not one of those games that you are likely to solve in one session. The lack of a save game option means that you have to start from scratch every time but once you've put in a little sword practice you should be able to slice your way through the earlier levels with little difficulty.
After the wilderness you enter the realm of the orcs and trolls in the caverns and then on to dungeon where you must face pit things and gobblers. During the final conflict with Drax you must battle your way past the living idol and the great demon before confronting the master wizard.

Endless hours of monster bashing await those daring enough to take up the challenge.

## Andrew

appearance. The only problem with the match itself is the fact that the pitch does not scroll smoothly, but in the heat of excitement, you don't really notice.

The structure of the off-field activities is based around a league format. There are four divisions of four International teams, and the aim of the proceedings is to play your way to the top of the first (by winning games, of course). You can choose to play any of the teams offered (nearly all the popular countries are represented), but there is no mode to change your team's name to anything else. Another slight annoyance that this version has is that no matter what colour your team strip really is, your players all play in white, and the opposition in red.
Apart from these minor faults, Gary should be proud with his latest license (because the other were not really up to scratch). If Gary's form improves as much as his computer games, all other countries should resign from the World Cup now.

## Rik

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Elite's timing is impeccable, I mean A Question of Sport was due for release before Christmas, but was delayed because of Emlyn Hughes' departure from the TV show. Now the game comes out with David Coleman at the helm, just when he himself falls down with the terrible illness of Shingles, and thus

mustlay off the proceedings for a short while.

Unfortunately this game is no get well card. In fact, it could make any fan of the program positively ill, not because it's a bad game, just a pale shadow of the real thing.

For a start, although the picture board, mystery personality and what happened next sections are still included, they are nothing like their celluloid counterparts. Due to graphical limitations, the picture board displays just a picture of the subject of question that you must answer, and the personality/what happened next sections describe a character/situation in text form which

| N F O |
| :--- |
| Price: $£ 14.99$ <br> Supplier: Elite <br> M L T D O W N <br> Grafix: 83\% <br> Sonix: 45\% <br> Gameplay: 67\% <br> Overall: 69\% |


| I N F O |
| :--- |
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| Gameplay: $38 \%$ |
| Overall: $49 \%$ |

# ARCADE 

US Gold has an incredible reputation when it comes down to compilations, it's just a shame that this latest one is so damn dire.
First up is Road Blasters (on the cassette version, anyway), which is a very average attempt at a racing game. It is based on the successful Capcom coin-op (as are all the other games in this set), and offers slightly
more than your common-or-garden Pole Position clone.

It was the first in the new batch of race games, ones with guns, which goes some way to justify the title. The action is roughly the same as other games of the genre, but you have a machine gun mounted on the front, which can blow the hazards out of the way. The only thing is, the enemy are also armed.
Although this was the game that sparked a lot of controversey, and

## MUSCLE

several writs, it is hardly anything to write home about, and there are now far better shoot' n'race type games available. The graphics are okay, sol suppose it isn't too bad.
Street Fighter, though, is not too hot, and with it relying on the license to make it different from any other beat-em-up, the game does not seem the same without the punch pads. Actually it is only a naff reproduction

have to guess correctly. The format of the game is actually quite pleasing. First you get to choose your specialist subject and team members (each of which also has a specialist subject), and you start on the picture board. You can play either one or two players, but the computer has a tendency to submit incredibly stupid answers, so I think it's best to play with a human opponent.


All questions are presented in the form of multiple-choice (out of four answers) and you only have a short time to choose one. It it's right you gain points, if not it goes on offer to the opposing team for a bonus point. This is roughly true for all the rounds, apart from the quick fire round which is
probably the game's only saving grace.
In said round you get 45 seconds to answer nine questions, if answered correctly each one will earn you two points, an incorrect response will deduct 2 seconds of valuable time. This is the round where the final result is generally determined.
Another valid point, I think, is that the computer cheats, I would swear blind it does. Every time I'm winning because of some bad decisions on its part, and some good ones on mine, the computer becomes super intelligent and answers the rest of the questions correctly in order to win. This can get a mite annoying at times.
The graphical presentation is very smooth, but pretty graphics do not a good game make. The small digitised (?) pics are of a high standard and the game runs very professionally. One odd thing though, is that a person has

been credited for music on the title page, yet I have still to encounter some, perhaps this is a small oversight that is to be corrected.
Although sport fans will probably find this package fun, this will only last for a short while, as only five blocks of questions are included, and we've already gone completely through four in the office. If I had a choice I wouldn't plump for A Question of Sport, the computer game, I'd rather invest my hard earned pennies into the board game instead.

## Rik

of the arcade game. The graphics are only reasonable, and the gameplay is far too difficult. The fact that it's multiload doesn't help it one iota.

But, if you want a laught, play Side Arms. And as a great fan of the neen version I was sincerely peeved. The sprite of the one character it allows you to play (the arcade machine having two-player action) is absolutely enormous, and really looks as though someone has thrown-up on the screen. The game is slow, boring, and far too stupidly hard. If I'd wanted a joke I would have gone and bought a Billy Connolly tape, not a pathetic compilation.

Bionic Commando is almost as bad as Side Arms, but not quite. It looks as if it's ported straight across from a Spectrum, and thus is garish, with see-though sprites. It is in no way as good as any other version, and even the action has been marred.
One reason why someone may buy this compilation (although I cannot really see this as an excuse), is to acquire the excellent 1943. Being a good shoot-em-up it already scores
highly with me, and the fact that it is the sequel to 1942, helps towards the popularity factor. The graphics are good, the sound effects are good, and the game as a whole is great fun.

Now please listen to my warning, I shall only say this once. Arcade Muscle is terrible, and no way as good as Command Performance (reviewed last issue). If you must buy a collection of games, go for that one or The In Crowd, but lassure you, you'll want to give Arcade Muscle a miss. It is sincerely awful.

## Rik




BMX Simulator 2 is an adolescents dream. Just imagine four sweaty bodies, of your sexual preference, crammed around the keyboard of your Amstrad all thrilling at the spills and speeds of $B M X$ racing.
Sounds great doesn't it? The problem is that there are, unfortunately, relatively few female games players and if you are lucky enough. to find some then the cries issuing from every ones vocal apparatus will not be those of jubilation but of down right frustration. Before all you ladies out there take offence with my prose you must admit that you are very much in the minority, but if it keeps you happy feel free to write a vitriol laced letter to the Editor Duncan Evans. As I was saying before I felt the need to justify, not that well, my sexist viewpoint
BMX Simulator 2 is one of those games designed to bring on early baldness, i.e. tearing you hair out when despite your best effort the computer controlled bikers finish their four laps before you have time to complete your first.


## - Four Player fun, oooh!

This sad state of affairs arises not from any fault of your own but the unerring skill of the computer controlled players and the almost physical impossibility of finding a patch of ground upon which your biker will remain upright.
There are as you have probably

already surmised far too many obstacles waiting for the less than perfect player. The only way of avoiding these fiendishly placed hazards is to make full use of the burms, banked corners to you an me. These take considerable skill to negotiate and when the inevitable happens and you find your rider trapped between two obstacles even attempting to face your rider in the correct position results in yet another tumble.
impressed even a hard bitten cynic like me. One was the aforementioned graphics and the other was the landscape itself. Unlike more conventional one screen racing games of this type the terrain upon which your race comes complete with hills and slopes. This has two obvious effects upon the gameplay, when you go up a hill you slow down and when you go down a hill you speed up. The really impressive feature about these hills comes into effect when you crash at

## BMX SIMULATOR 2

I must admit that this program is not without its good points as the graphics do at least resemble the terrain they are supposed to represent and the all too frequently seen tumble does have some nice animation that you can watch whilst banging your head against the wall.

Four players are allowed in any combination of human and computer controlled bikers with three friendly types on the keyboard and one antisocial using a joystick. Despite my earlier scathing remarks there are one or two features of this game which
the bottom of one. Just as in real life your biker wobbles all over the place as he, or she, tries to make a hill start. This leads to even greater frustration as you nearly always wobble off the side of the slope and crash.

If you play in difficult mode you are allowed to select your tyre and chain wheel size. Altering these allow you to alter the acceleration, top speed and turning characteristics of your bike.

One for all you masochists out there.

## Andrew



## SKWEEK

Get this. Skweek is a cute, orange furry blob with the sort of eyes that make women come over all maternal. His land has been invaded by the evil Pitark and his Skarks (yes, yes, I know), who have contaminated it with a blue skweeticide, banishing forever Skweek's people.

Now I just bet you're feeling really broken up over this. Well wipe your eyes, sniff back that snot and grab a ioystick because it's payback time! Good old Skweek is going in alone (that brave and noble hero of the realm) to clear his land of the Skarks and erase once and for all the skweeticide.

You control Skweek, (that crazy heroic fool), as he moves across the landscape which consists of various patterns of coloured squares, the majority of which are blue, indicating that they have been infected by the skweeticide. Whenever you manoeuvre Skweek (that courageous fool), over one of these squares it becomes cleansed, and returns to its natural colour, a nauseating shade, of pink that reminded me of an uncooked Walls sausage my cat had just coughed up. When you have turned all the squares pink the level is completed and you can move on to the next one. There are 99 levels in total to clear before the world is once again fit to live in.

If only life was that simple. There are
a number of hazards along the way, the most obvious are the numerous nasties that hunt you down with the persistency of a T.V. detector van. Fortunately they are predictable and easy to avoid or shoot, unless they happen to be fast moving or indestructible, that it. Some squares will sprout metal jaws that vomit forth more nasties, and then disappear, only to reappear again, usually at the very moment you decide to cross.

The landscape is littered with impassable barriers that slow down movement, but which can also be used to ricochet your bullets around the screen to deadly effect. Many of the infected blue squares have arrows emblazoned on the indicating that movement is possible only in one


## MELTDOWN


direction and you must take care not to find yourself herded into the clutches of a nasty. Other squares are grey in appearance upon which movement is decidedly less controlled and even worse are the squares that vanish beneath Skweek's, (that suicidal maniac), furry feet! The final sickening body blow is a time limit and strop. So...I'm allowed to.
Despite my ineptitude I found the game quite addictive, with lots of
failure to clear a level in the allotted time means the loss of a life.
Now then, I expect all those limp wristed lackies of mine out there in boring surburbia will want to know how your keyboard hardened, rock jawed joystick adonis of a reviewer handled this game.
Well, I'll tell you. A lobotomised monkey could have done better. To begin with I could only complete one level after playing about twenty games, and then went into a childish
action taking place on screen. There are a number of bonuses to pick up along the way such as the Turbo symbol that increases your speed, the Freeze, which immobilises all forms of nasties, and the multifire which deals you a nice line in high calibre weaponry. All of this increases your chance of becoming a furry legend to your people.

The more levels cleared, the harder it gets, and pretty soon I have my Skweek, (that raving gung-ho headcase), burning up that screen as if he had just easten a four pound 'suicide' bar of ex-lax. God, I was magnificent. Before long the screen came to resemble one of Cyndi Laupers haircuts; a riot of pink, blue and green. The accompanying jingle affronted my cultured ears with melodic atrocities not experienced since the time I stuffed my head in the bass bins at a Motorhead concert. Some time later I was gently led away from the defiled keyboard, a broken, burnt out shell of a man. Skweek, (that psycho gun-nut), had defeated me. I had only managed to complete the first five levels.

But I'll be back.
Adrian


| I N F O |
| :--- |
| Price: $£ 9.99 / 74.99$ |
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| Overall: $88 \%$ |

## ROCKSTAR ant when



Could you manage this Rock Star ?


## ROCKSTAR ATE MY HAMSTER <br> 

Could you manage this Rock Star?





## MELTDOWN

58
ne woy or another, each and every one of you reading this will have ployed the classic of the eighties, Pacman. How many of you can actually remember pumping quids and quids into those stand-up arcade machines just to gain control of

a yellow blob who's only pleasure was to gobble fruit, dots and wreak revenge on those ghosts.

Mr . Pac has been the star of manya game, most of these being PacMan clones, although more recently we hove seen Mr. Pac taking roles in the 3D game PacMania and now in the arcade conversion of Pacland.

Pac bounces back in a new scenario. Gone are the days of running around a maze munching dots. Mr. Pac has metamorphosed since you last saw him and has taken on arms and legs plus a large nose. He has also been to Burton's and bought himself a pair of boots and a matching red hat. He no longer lives in a maze and now resides in Pac-Land, a nice homely town with no maze in sight.

One day, while walking along the main street, he stumbled across a lost fairy who unloaded her problems on to Pac, who, being a kind soul, agreed to escort her back to Fairyland.

The journey from Pac's home town to Fairyland is a treacherous one, and is not the the faint hearted. Once out of town, you are into the wild wilderness. On your travels, you must navigate deep ravines, cross high mountainous regions and fight your way through dark forests.

The game is based on the plafform idea, where Pac is walking from left to


## - Where is that ghost?

right, jumping over obstacles in his fight to reach Fairyland. These abstacles can be either static or motional, by this I mean ghosts.
All four of these, far from charming,

creatures are on the loose again, not having learnt their lesson the first time around, they are back for more. Binky, Pinky, Inky and Clyde are all out on the rampage. Some on foot - well, float - and two in motorised vehicles, these being a plane from which small ghosts are dropped upon you and a small car


- Look out, he's behind youl
which drives towards you in a suicide mission.

Pac has two walking speeds; slow and Ben Johnson - for that extra boost to get you out of trouble. Like Ben discovered, this can be more hazardous than you first thought.

Pac can still turn nasty on the ghosts by eating the power pills and attacking his assailants, whose eyes depart from their bodies and exit the screen.

Screen change is performed by a glorified page flip, where the new screen scrolls down over the old. If is unfortunate that the game does not scroll horizontally as does the arcade version.

Graphically, Pac-Land is superb. The characters move smoothly and the colours are vibrant. The sound is also very good. The game play element is one of the best I have wifnessed in a long time. All these features add up to make PacLand a superb arcade conversion. Grandslam has something to be proud of here.

## Andrew

| I N F O |
| :--- |
| Price: $£ 9.95 / £ 14.95$ |
| Supplier: |
| Grandslam |
| M E LT D O W N |
| Grafix: $86 \%$ |
| Sonix: $78 \%$ |
| Gameplay: $89 \%$ |
| Overall: $88 \%$ |



Emlyn Hughes International soccer is a football simulation game which combines excellent graphics with easy but highly enjoyable gameplay. Although Emlyn Hughes is noticeable by his absence, it has that certain Liverpool ex-captain's touch of class to it.

Having loaded the game, a menu comes up with a list of players on the squad, 11 of which you pick for your team. There is also the choice of team, I picked England, being a patriot at heart and allowed the computer to be my opponent, although for those of

# EMLYN HUGHES 



## MELTDOWN L



- Chop him, maim him, mash him!
you who have friends there is the option of playing a fellow creature.

Having spent some time weighing up the pros and cons, I decided my players were ready to take on Scotland in an England $v$ Scotland friendly -a contradiction in terms - but apart from a few fouls both the players and
crowd were impeccably behaved. The match was fast and furious full of goal mouth incidents and end-to-end stuff (mainly because the mid-field players were not on form) in true British tradition.

The Scottish defence (i.e. the computer), was impenetrable and after a close five minutes of the first half the score was $0-0$.

## Second half

It was at half-time that I fell in love with the game. All the players go scuttling off the pitch like rats fleeing a sinking ship, while the crowd cheer and boo, being a fickle bunch. Then they all come streaming back on, having sucked on some lemon quarters, looking fully refreshed.

Things took a turn for the better in the second half as far as England was concerned. Boy Greene drove a marvellous shot home which streamed over the keepers outstretched hands. The crowd went wild, jumping up and down in their seats, blowing whistles
and hooting hooters.
There was nearly as much atmosphere generated as there is at a real football match but without the hooligan element.
The final result was 1-0 to England, I had broken Scotland's defence while maintaining my own.
Someone has obviously spent a great deal of time compiling this game. Everything you can think of has been included, even down to the minutest of detail. The name of the player in possession appears at the top of the screen accompanied by notification of a free-kick, a throw-in, a corner or a goal-kick. My only bone of contention is the actual size of the playing pitch, which takes up a mere quarter of the screen, but it is a minor niggle as otherwise the game is excellent, and the graphics and sonics are bright and sharp.

Emlyn Hughes is a marvellous way for the less energetic of this world to play football.

## Emma

literally, of course). When you have hit too many of the smaller hazards, this will also cause you to burst into a ball of flames (nobody said it wasn't painful).
Luckily, a map of the four states of America that are involved, is included with the game, so navigation is made slightly easier. Every now and again, a small road will come up that will lead you onto another highway, and this is how to get from point 'A' to point ' $B$ '.
Graphically, Crazy Cars II is superb. The sprites are large, chunky and move very smoothly and the backgrounds are very colourful. The sound is also very impressive, with police sirens wailing as their cars sneak up on you. Also added, as a bonus (on the disk version, anyway), is a sampled piece of music.
Crazy Cars II is the most strategical racing game to be released on the Amstrad, and is easily the best yet (even better that WEC Le Mans), one sour point, though, is that there is a terrible bug that can occur, which makes any further play impossible. This does not happen every time, but can get slightly annoying, maybe this will be corrected, and if so CCII will be the king of the roads.

## Rik

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## MELTDOWN

If you read the small ads in computer magazines you may remember a small company called E\&J Soffware, touting all sorts of sport simulation soffware. Now, due to apparent success over the years, this small company has decided to branch out with a couple of re-releases on budget format, available through most retail outlets. Premier II is the first to arrive.

For those with experience of footy management games, I suggest you bear with me, but don't expect to learn anything new as Premier II offers no changes on the norm. It instead aims to better what has previously been

| I N F O |
| :--- |
| Price: £l.99 |
| Supplier: E\&J Software |


| M E L T D O W N |
| :--- |
| Grafix: N/A |
| Sonix: N/A |
| Gameplay: $87 \%$ |
| Overall: $75 \%$ |

## Premier II

achieved, and all for a measly price.
Once loaded and past the obligatory inputting phase you will be faced with a menu, with which you may as well get friendly with, because you'll certainly see a lot of it. This allows you to change the names of all your players and teams in the division,
plus all sorts of things that most games of the ilk allow.

At any time you can view the fixtures for the season, and the current league table (consisting of sixteen different teams), along with several other managerial duties. One of the almost unique features is the way the transfer market is represented. Each team has it's own list of players (skills, form, etc. included) all of which are easily


## Rock Star

Have you ever thought how great it would be to manage a rock group? All that excitement, fame and fortune, and fabulous head-throbbing music. Well now you can make your dream come true with Rock Star, the pop group management game from those crazy people at Codemasters.
Using just your Amstrad CPC and this new game, you could manage the year's best selling rock legend.

Cecil pitt is the name, makin' money's his game. An' he don't care how he gets it. If it means sackin' a greedy band member, then get on wi' it (what accent is this Andrew? Ed).
The game is played with the user controlling the arrogant decisions of Pitt. You'll need to be a ruthless son-of-a-dog to play this; surprisingly, the Editor fits this description very well this bit will probably get subbed out (No, I've just cut your fee in half. Ed)!

Pitt must first

## STuN



## ROCK STAR ATTACKED BY KILLER BEES!

EY SQARAWAY STUN REFORTER:
 choose his band from a huge list of 50 different artists, each one modeled on a real star, but are, somehow, not quite the same. For example, Stiff Pilchard has an uncanny resembalence to Cliff Richard, while Tina Turnoff looks so

| I N F O |
| :--- |
| Price: $£ 9.95$ |
| Supplier: Code Masters |
| M E L T D O W N |
| Grafix: $76 \%$ |
| Sonix: $85 \%$ |
| Gameplay: $84 \%$ |
| Overall: $87 \%$ |

much like Tina Turner, its almost unbelieveable!
Your side kick, Clive, loads a video tape into the VCR machine and you sit down to watch the showing of the stars. Take your pick from any one that appears on the screen, and you are only permitted to have four in your group. The older the star, the less popular he or she will be and will, consequently, be cheaper to employ than the up-to-the-minute stars like George Michael and Morrisey (Star? Ed).
Got your stars? Right! Better get them some equipment. Here you have three choices; brand spanking new, second hand or off the back of a lorry

## MELTDOWN

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HEEK Z3 MANAGER R HENDERSON
SKHLL I MORALF 9 SEASON I
PKIEAIFR 11
111 CHARGF PLNOER/TEAM NAME 125 PR1tes LEAGU + \(1 \times\) TURES E.3 JRIMT SDHAD DETALLS
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``` ENTER OMTION REWUIKED
```

accessible. Once you have seen a player that would improve your squad, make a note of which team he plays for, and his player number and you can poach him if the offer is right.
The game is not strong when it comes to the match itself, but at least it's enormously fast. Both teams involved at the time have an attack rating, which is made up, in a mathematical process, from all the player's factors. It plays in several sections and in each section there is a chance of scoring, dependant on the attack rating for the teams. If your team scores, you will be presented with the name of the scorer and his number, minutes are not displayed in Premier II.

Another weak point that is worth mentioning is that things can get rather boring from season to season, as there are no cup games featured, and it is far too easy to acquire an amazingly good team. With all said and done, it is still a fun game with enough managerial decisions to make it a challenge, albeit for a short while.
The display of all the menus is very user friendly, and it doesn't take too
long to complete one whole season. You can save the game that you are currently playing, like all other managerial games, which makes long term play that much easier.

At a budget price, Premier II succeeds but I wouldn'tsay thatit was in division one for soccer games, more like jostling in the play-offs.

## Rik



- nicked! The older the gear, the worse it sounds and the cheaper it is. If it's nicked, then think about the technicalities of the law and what it has to say about receiving.

Got your gear? Then get those tone deaf buggers in tune by locking them in a room and getting them to practice.

Once your newly found group has practiced a bit, you can send them out to do some gigs. You choose the venue which can be either a pub, club, concert hall, or stadium. If your rock stars are unknown then it's better if you send them to a small place to get their name about. It is also best to choose a low ticket price, 'cos nobody's going to pay $£ 20$ to sit in a smokey pub listening to your lot.

After some gigs, you will receive a


- The Bondage Pixies?
phone call from a record company wanting to sign a deal with you. At first, these deals will be pretty naff, but as your group gets better and has a larger following, you will get better and better offers. But, don't be too choosy as the offers will eventually dry up.

Once you have a deal, you can record your songs and release singles and albums. Unless your stars are really hot stuff, your first records will only just enter the top ten, but once you have got a following, going platinum is the limit.
Yes, this is the aim of Rock Star, turning platinum. But it's not going to be easy. Going on long tours is great publicity and increases your revenue, but at the same time the band are not going to like being on the road for months and months without a break.
The odd publicity stunt will help break up the momentum of touring. Unfortunately, Clive is not to bright and

and you often get bad publicity as Meathead punches a bishop or something equally ridiculous.

Rock Star Ate My hamster is a great game. Unlike other management games, most of which are football, you don't need to know anything about the subject and so is easy to play. The graphics are good, although not stunning and the sound is highly imaginative. Play wise, Rock Star is a gem, being operated by easy-to-follow menus. I think that Codemasters have a hit on their hands here. OK Boys! From the top!

The Citizen HQP-45 is a 24 pin impact dot matrix printer with a 12 by 2 staggered print head. The machine comes complete with built-in compatibility with the Epson LQ-1000 and so allows the use of practically any commercial software or word processor.

Courier 10 is the resident font and the printer allows speeds of 200 cps for draft quality, 132 cps for correspondence quality and 66 cps for letter quality. The printer has an RS232C serial interface and a Centronics 8 bit parallel interface built-in as standard. The default switches, usually at the back of most machines, are helpfully located right next to the main control panel for ease of use.

The print head has its own heat sensor for protection during long print runs and has a life expectancy of 200 million dots/wire which is approximately 100 million characters of draft printing. The HQP can use its own or the Epson LQ-100 ribbon which have a life expectancy of 2 million characters. Both the ribbon cartridge and the print head are extremely easy to remove and

# HARDWARE 

# FULL <br> OF <br> ? 

## Yvonne Taylor reviews the Citizen HQP-45

system functions well. The user should also note that the plastic cover on the front of the printer is used not only to keep noise in but it has a sharp inside edge and can be used to cut paper, even in the middle of a page. The cover should ne handled carefully at all times.
Changing between print modes is simplicity itself with the HQP-45. The user can choose between Draft, Correspondence and Letter modes, with or without Porportional Spacing, by pressing the correct button on the control panel on the front of the printer.

There are certainly many users who will heave a great sigh of relief at the thought of never again having to disembowel their machine just to change to bold type. If the user wishes to try other fonts not resident within the printer, Citizen have once again come up with the easy answer Credit card sized IC (Integrated Chip) cards can be slotted into the printer to provide a much more varied range of fonts. There is a ready made compartment at the top rear of the printer which holds two cards and installation of the cartridges is quick and easy; the operation is over in a matter of moments and the compartment can be closed again so there is no chance of damage to the printer or card. All the user has to remember is the fact that this can only be accomplished safely when the power is

turned off and that, quite obviously, only one Font card can be used at a time or the printer will not work. If two cards of the same type are installed, the font select lights on the control panel will flash to tell the user to change the cards. Once everything is set up to the user's specifications and the printer's satisfaction, the user must switch from resident fonts to the IC card fonts. Once again, the user just has to push a button on the control panel and then, via the IC cards


## HARACTER

the user will have access to fonts such as Draft Gothic, Letter Gothic, Courier Light and Bold Italic.

To make the machine even more versatile, there is a second type of IC card available. Emulator cards allow the printer to use commands for other printers such as the Diablo 630/Qume Sprint configuration, so increasing compatibility with software, particularly since Diablo printers support virtually all software. There is another

Emulator card for the IBM Proprinter. The HQP can hold an Emulator card and a Font card at the same time and therefore can far surpass the range of capabilities of many of its rivals without this facility. It is up to the individual customer to decide which Emulator card he would most benefit from purchasing. For example, most of the purchaser's software may support the IBM Prorpinter configuration, particularly if his computer is an IBM PC or compatible, so
he would benefit from owning an optional IBM Proprinter Emulator card.

When the user has finished his work and is waiting for the printer to complete its job, he can move onto some new work in complete safery because the HQP- 45 has a 24 k memory buffer which allows him to carry out new work on his computer while the printer is still functioning. The printer is relatively quiet, 55 dB , so the user will not be disturbed too much if he wishes to avail himself of this facility.

All in all, the Citizen HQP-45 is a good looking, stylish, highly capable machine which brings the consumer facilities not often seen in this price range.


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## LIZTINGS

Every card shark has to start somewhere. And what better way to while away the hours and practice your poker face than playing against the computer.

This listing gives you the choice of four solitaire games: Klondyke; Spaces; Accordian; and Poker Solitaire. The first three games use the same command keys.

The cards are selected by using 1-0, $\mathrm{A}, \mathrm{Q}, \mathrm{K}$, and the suits are selected by using $H, C, D, S$. To twist or deal another card hit the space bar and E to end the game. Klondyke is probably better known as solitaire. The idea behind this game is to reveal the hidden cards by arranging the cards in columns of descending order alternating in colour. The other way of removing a card is to place it with the rest of its suit which build up in stacks of ascending order. To move a card to a blank column or its suit stack simply define the card and leave the destination blank and the program will do the rest.

In Spaces the idea is to rearrange the four columns into descending order by moving the cards into the available spaces.

Accordian is a two player game played against the computer. As each card is delt you compare it to the previous card and the one three cards ahead of it. If the card is the same rank or suit it can be moved onto the relevant pile. The idea of the game is to end up with one pile. If this is not achieved the winner is the person with the least number of piles.

The final game Poker Solitaire is played with the $5 \times 5$ grid of cards. Each line and column of the finished grid is scored thus; straight flush -30 , four of a kind -16 , straight -12 , full house -10 , three of a kind -6 , flush -5 two pairs -3 , one pair - 1. The commands are A.Y for grid location and $Z$ to end the game.
60 REM * Clarke *
70 REM *
80 REM *******************
90 ,
100 ENV $1,15,-1,9:$ ENT $-1,135,-1,1$
110 SYMBOL AFTER 225:SYMBOL $225, \varnothing, \varnothing, \varnothing, \varnothing, \varnothing, \varnothing, \varnothing, \varnothing$ SYMBOL $250,90,165,90,165,165,90,165,9 \varnothing$
120 DIM $a \$(13), b \$(13), c \$(4): F O R \quad a=1$ TO 13:READ $a \$(a):$ NEXT:FOR $a=1$ TO 13:READ b $\$(a):$ NEXT:FOR $a=1$
TO 4:READ C(\$(a):NEXT
130 d\$=" EA234567890JQK"
140 DATA " A"," 2"," 3"," 4"," 5"," 6"," 7"," 8"," 9","10"," J"," Q"," K"
150 DATA "Ace", "Two", "Three", "Four", "Five","Six","Seven", "Eight", "Nine", "Ten", "Jack", "Queen", "K
ing"
160 DATA "Clubs","Diamonds","Hearts","Spades"
170 DATA "1 - Klondyke","2 - Spaces","3-Accordion","4 - Poker Solitaire","5 - End"
180 CALL \&BCD2:PAPER Ø:PEN 1:MODE 1:RESTORE 170:FOR a=0 TO 4:READ z $\$: L O C A T E ~ 13, a * 2+8:$ PRINT $z=: N$
EXT:WHILE INKEY\$ $\subset$ >"":WEND

EN CALL \&BCO2:PAPER Ø:PEN 1:CLS:END
200 PAPER \#2, Ø:WINDOW \#2,2,39,2,24:PAPER \#1, 0:PEN \#1,1
$210 \mathrm{e}=\varnothing$
220 ON a GOSUB $440,850,1210,1520$
230 ON z GOTO $240,260,270,280$
240 CLS \#1:LOCATE \#1,1,1:PRINT \#1,"End game"; :LOCATE \#1,1,3:PRINT \#1, "Are you";:LOCATE \#1,2,4:P
RINT \#1,"sure?";:WHILE INKEY\$く>"":WEND

UND 2,600:GOTO 250
260 CLS \#1:LOCATE \#1,1,2:PRINT \#1, "YOU WIN!";:FOR $x=150$ TO 25 STEP -1:SOUND $2, x, 2:$ NEXT:GOTO 280
270 CLS \#1:LOCATE \#1, 1,2:PRINT \#1,"You lose";:FOR $x=50$ TO 150:SOUND $2, x, 2:$ NEXT:GOTO 280

$2902 \$=U P P E R \$($ INKEY $\$$ ): IF $z \$=" *$ THEN 290 ELSE IF $z \$\langle \rangle " Y "$ AND $z \$\langle \rangle " N "$ THEN 290 ELSE ON a GOSUB 30
$0,300,310,300:$ IF $z \$=" Y$ " THEN 210 ELSE GOTO 180
300 ERASE $i, j$
310 ERASE f,g,h:RETURN
320 INK $\varnothing$, $9:$ INK 1 , $0:$ INK $2,6:$ INK 3,26:PAPER 0: BORDER 13:CLS
330 PLOT $\varnothing, \emptyset, 1$ : DRAW 638, Ø: DRAW 638, 398 : DRAW $0,398:$ DRAW $\varnothing, \varnothing$
340 PEN 1:LOCATE 16,24:PRINT "Shuffling";
$350 \operatorname{DIM} f(f): F O R$ b1 $=1$ TO $f: f(b 1)=b 1:$ NEXT
360 FOR $b 1=1$ TO $f * 3: b 2=R N D *(f-1)+1: b 3=R N D *(f-1)+1: b 4=f(b 2): f(b 2)=f(b 3): f(b 3)=b 4: N E X T: C L S ~ \# 2: R E T$

## LIZTINGS



URN
370 WHILE INKEY $\$<>{ }^{*}$ ":WEND


 ETURN
$400 \mathrm{u}=\mathrm{u}-2$ L LOCATE \#1, 1 ,e1:PRINT \#1,b\$(u);" of ";:SOUND 2,250,2:WHILE INKEY $\$<>$ "":WEND
$410 \mathrm{v} \ddagger=$ UPPER $\$($ INKEY $\$$ ):IF $v \$="$ * THEN 410 ELSE IF $v \$=$ CHR $\$(127)$ THEN SOUND $2,400,10: v=\emptyset:$ RETURN
 : v=0: RETURN
430 $v=v-2: L O C A T E ~ \# 1,1, e 1+1:$ PRINT \#1, $c \$(v) ;:$ SOUND 2,400,2: RETURN
$440 \mathrm{z}=0$ :IF $\mathrm{e}=1$ THEN 490 ELSE $\mathrm{e}=1: \mathrm{f}=52$ :GOSUB 320: WINDOW \#1, $31,39,14,18$
450 DIM $g(52), h(126), i(4), j(12)$
$460 h 1=0: \omega 1=52$ :FOR $y=2$ TO 8:FOR $x=y * 4-6$ TO 26 STEP $4: \omega=f(\omega 1):$ GOSUB 800:g $(f(\omega 1))=(y-2) * 7+(x-2) \backslash 4$ $+1: h(g(f(\omega 1)))=f(w 1):$ IF $h 1=1$ THEN $g(f(w 1))=\emptyset-g(f(w 1))$
470 $\omega 1=w 1-1: h 1=1:$ NEXT:h1=0:NEXT:x=36:y=20:w=f(22):GOSUB 800:h1=1:x=31:GOSUB 800
$480 h 2=7: f 1=22: f 2=24:$ FOR $t=1$ TO $4: i(t)=0:$ NEXT
490 IF $z<>0$ THEN RETURN ELSE $\mathrm{e}=1:$ LS \#1:SOUND 2,100,3:GOSUB 370

OR $v$ =" " THEN GOSUB 610:GOTO 490 ELSE RETURN
$510 \mathrm{u} 1=\mathrm{u}: \mathrm{v} 1=\mathrm{v}: \omega 1=(\mathrm{v}-1) * 13+\mathrm{u}:$ IF $\mathrm{g}(\mathrm{w} 1)>$ THEN $\mathrm{k} 1=1: g 1=\mathrm{g}(\mathrm{w} 1)-((\mathrm{g}(\mathrm{w} 1)-1) \backslash 126) * 126$ ELSE IF $f(f 1)=w 1$
THEN k1=2 ELSE SOUND 2,600:GOTO 490
520 IF $u 1=1$ THEN $k 2=2:$ tOTO 580 ELSE .IF $u 1<13$ THEN 530 ELSE FOR $\mathrm{g} 2=1$ TO $7: \mathrm{IF} \mathrm{h}(\mathrm{g} 2)=0$ THEN $\mathrm{k} 2=1: \mathrm{g}$ 2=92-7:GOTO 580 ELSE NEXT:SOUND 2,600:GOTO 490
530 LOCATE \#1,4,3:PRINT \#1,"to";:e1=4:GOSUB 370
540 IF $u=0$ OR $v=\emptyset$ THEN IF $u \$=C H R(127)$ OR $v \$=C H R(127)$ THEN SOUND 2,600:GOTO 490 ELSE IF $u \$=* *$
OR $v$ =" " THEN GOSUB 610:GOTO 490 ELSE RETURN
$550 \omega 2=(v-1) * 13+u$ : IF $g(w 2)>0$ AND $g(w 2)<127$ THEN $k 2=1: g 2=g i(w 2)$ ELSE IF $i(v)=u$ THEN $k 2=2$ ELSE SOU ND 2,600:GOTO 490
560 IF ( $k 2=1$ AND ( $u<\rangle u 1+1$ OR $v=v 1$ OR $v+v 1=5$ )) OR ( $k 2=2$ AND (u1<>u+1 OR v1<>v)) THEN SOUND 2,600 :GOTO 490
570 IF $k 1=1$ AND $k 2=2$ THEN IF $g(\omega 1)<1$ OR $g(\omega 1)>126$ THEN SOUND 2,600:GOTO 490
$580 \mathrm{t} 1=0$ : IF $\mathrm{k} 1=1$ THEN GOSUB 670 ELSE GOSUB 690
590 IF $k 2=1$ THEN GOSUB 730 ELSE GOSUB 770
600 IF $\mathrm{h} 2=52$ THEN $\mathrm{z}=2$ : RETURN ELSE GOTO 490
$610 \mathrm{t} 3=0$ : IF $\mathrm{t} 1=0$ THEN $\mathrm{t} 2=+1: \mathrm{t} 1=1$
620 IF f1=0 THEN RETURN ELSE $y=20: C L S$ \#1:LOCATE \#1, $3,3:$ PRINT \#1,"twist"; :FOR f3=f1-1 TO f1-3 ST
EP $-1: s=f 3$ :WHILE $5<1: s=s+f 2:$ WEND: IF $s=f 2$ THEN $x=31: h 1=1:$ GOSUB 800
$630 x=36: h 1=0: \omega=f(s): G O S U B$ 8ø0: IF $s=1$ THEN $x=31: h 1=2$ :GOSUB 8øØ
640 IF $\mathrm{t} 2=5$ THEN $\mathrm{t} 3=1$
650 NEXT: IF $\mathrm{t} 3=1$ THEN $\mathrm{t} 1=\mathrm{t} 1+1$ : IF $\mathrm{t} 1=4$ THEN $\mathrm{z}=3$ : RETURN
$660 f 1=f 1-3$ :WHILE $f 1<1: f 1=f 1+f 2$ :WEND: RETURN
$670 \mathrm{j}=\emptyset:$ WHILE $h(\mathrm{~g} 1+\mathrm{j} * 7)\rangle 0: \mathrm{j}(\mathrm{j}+1)=\mathrm{h}(\mathrm{g} 1+\mathrm{j} * 7): \mathrm{h}(\mathrm{g} 1+\mathrm{j} * 7)=\emptyset: \mathrm{j}=\mathrm{j}+1: \mathrm{g}(\mathrm{j}(\mathrm{j}))=0:$ WEND: IF $\mathrm{g} 1>7$ THEN $\mathrm{w}=\mathrm{h}(\mathrm{g}$ 1-7): IF $g(w)<0$ THEN $g(w)=\operatorname{ABS}(g(w)): h 2=h 2+1$ ELSE $g(w)=g(w)-126$
$680 r=(g 1-1) \backslash 7+2: x=((91-1)$ MOD 7$) * 4+2$ :PLOT $(x-1) * 16,(26-r) * 16,0:$ DRAWR 62, 0: PAPER Ø:FOR $y=r$ TO $r$ $+j+3:$ LOCATE $x, y:$ PRINT SPACE $\$(4):$ NEXT: IF $91<8$ THEN RETURN ELSE $y=r-1: h 1=0: G 0 S U B$ 80ø: RETURN $690 y=20:+3=+1$
700 WHILE $f 3<f 2: f(f 3)=f(f 3+1): f 3=f 3+1:$ WEND $: f 2=f 2-1:$ IF $f 2=0$ THEN $x=36:$ GOT 710 ELSE IF $f 1\rangle+2$ THE N f1=1:x=31:GOTO 710 ELSE GOTO 720
$710 y=20: h 1=2: G O S U B 800$
$720 \omega=f(f 1): h 2=h 2+1: j=1: j(1)=w 1:$ IF $\dagger 2=\emptyset$ THEN RETURN ELSE $x=36: h 1=0: G O S U B$ 800: RETURN
730 IF $92>$ THEN $x=((\mathrm{g} 2-1)$ MOD 7$) * 4+2$ ELSE $x=92 * 4+26$

## LIZTINGS

$740 \mathrm{~h} 1=0:$ FOR $j 1=1$ TO $j: h(g 2+j 1 * 7)=j(j 1): g(j(j 1))=g 2+j 1 * 7: I F j 1<j$ THEN $g(j(j 1))=g(j(j 1))+126$
750 IF $g 2<1$ THEN $y=j 1+1$ ELSE $y=(g 2-1) \backslash 7+j 1+2$
$760 \omega=j(j 1)$ :GOSUB $800:$ NEXT:IF $g 2>$ THEN $g(w 2)=g(w 2)+126$ : RETURN ELSE RETURN
770 IF ( $v 1$ MOD 2) $=0$ THEN $x=36$ ELSE $x=31$
780 IF $\vee 1<3$ THEN $y=8$ ELSE $y=2$
$790 \omega=\omega 1: h 1=\emptyset: G O S U B$ B0ø: $i(v 1)=i(v 1)+1$ : RETURN
$80 \emptyset$ IF $h 1=2$ THEN PAPER $0:$ PLOT $(x-1) * 16,(26-y) * 16,0:$ DRAWR 62,0 ELSE PAPER $3:$ PEN 1
810 FOR $r=y$ TO $y+4: L O C A T E x, r: I F h 1\langle \rangle 1$ THEN PRINT SPACE $(4)$; ELSE PRINT STRING $\$(4$, CHR $(250))$; 820 NEXT:IF $h 1=2$ THEN RETURN ELSE IF $h 1=1$ THEN 840 ELSE IF $(\omega-1) \backslash 13=0$ OR ( $\omega-1$ ) $\backslash 13=3$ THEN PEN 1 ELSE PEN 2
$830 z \$=a \$(((w-1) \operatorname{MOD} 13)+1)+\operatorname{CHR} \$((w-1) \backslash 13+226): L O C A T E \quad x, y: P R I N T M I D \$(z \$, \operatorname{INSTR}(z \$, *$ " $)+1) ;: \operatorname{LOCAT}$ E $x+1, y+4$ :PRINT $z \$ ;$
840 PLOT $(x-1) * 16,(26-y) * 16,1:$ DRAWR 62, 0:DRAWR $0,-80:$ DRAWR $-62,0:$ DRAWR $0,80:$ RETURN
$850 \mathrm{e}=3: \mathrm{z}=0:$ IF $\mathrm{e}=1$ THEN 890 ELSE $\mathrm{e}=1: \mathrm{f}=52: \mathrm{GOSUB} 320:$ WINDOW \#1,16,25,21,24
860 DIM $g(52), h(56), i(4), j(4)$
$870 k=1: L O C A T E 18,2:$ PRINT"Deal $1 * ;: F O R \quad x=1$ T0 56:h(x)=0:NEXT: $w=1: F O R \quad x=1$ TO 4:FOR $y=2$ TO $14: p=($ $x-1) * 14+y: g(f(w))=p: h(p)=f(w): w=w+1: G O S U B 1090:$ NEXT:NEXT

880 $p=1: F O R x=1$ TO 40 STEP $13: h(p)=h(g(x)): h(g(x))=0: n=g(x): g(x)=p: G 0 S U B$ 1070:G0SUB 1090:p=p+14 :NEXT:FOR $x=1$ TO 4:i(x)=1:NEXT:u=Ø:GOSUB 1150

890 IF $z>\emptyset$ THEN RETURN ELSE IF $q=4$ THEN $q=0:$ IF $k<3$ THEN GOSUB 940:GOTO 890 ELSE $z=3:$ RETURN
900 CLS \#1:LOCATE \#1,3,1:PRINT \#1,"Next";:SOUND 2,100,3:GOSUB 370
910 IF $u=\emptyset$ OR $v=\emptyset$ THEN IF $u \$=C H R \$(127)$ OR $v \$=C H R \$(127)$ THEN SOUND 2,600:GOTO 89@ ELSE IF $u \$="$ "
OR v ©=" " THEN $\mathrm{q}=4: \mathrm{GOTO} 890$ ELSE $\mathrm{z}=1:$ RETURN
$920 m=(v-1) * 13+u: p=g(m-1):$ IF ( $p$ MOD 14$)=\emptyset$ THEN SOUND 2, $600: G 0 T 0$ 890 ELSE IF $h(p+1)\rangle 0$ THEN SOUN D 2,600:GOTO 890
$930 n=g(m): p=p+1: h(p)=h(n): h(n)=0: g(m)=p: G O S U B$ 1070:GOSUB 1090:G0SUB 1150:GOT0 890
940 SOUND $2,100,10:$ SOUND $2,0,10:$ SOUND $2,100,6:$ SOUND $2,0,4:$ SOUND $2,250,16$
950 CLS \#1:PAPER Ø:PEN $1: k=k+1:$ LOCATE 22, 2:PRINT $k ;: \omega=0:$ FOR $x=1$ TO $4: j(x)=i(x)+1: F O R \quad y=j(x)$ TO $14: n=(x-1) * 14+y:$ IF $h(n)\rangle 0$ THEN $w=w+1: f(w)=h(n): h(n)=\emptyset:$ GOSUB 1070

960 NEXT:NEXT:WHILE $w>0: x=15$
970 IF $j(1)>j(2)$ OR $j(1)>j(3)$ OR $j(1)>j(4)$ THEN $x=x-8$
980 IF $j(2)>j(3)$ OR $j(2)>j(4)$ OR $j(2)>j(1)$ THEN $x=x-4$
990 IF $j(3)>j(4)$ OR $j(3)>j(1)$ OR $j(3)>j(2)$ THEN $x=x-2$
1000 IF $j(4)>j(1)$ OR $j(4)>j(2)$ OR $j(4)>j(3)$ THEN $x=x-1$
1010 IF $x>7$ THEN $y=1:$ GOSUB $1060: x=x-8$
1020 IF $x>3$ THEN $y=2:$ GOSUB $1060: x=x-4$
1030 IF $x>1$ THEN $y=3: G O S U B$ 106 $0: x=x-2$
1040 IF $x>0$ THEN $y=4$ :GOSUB 1060
1050 WEND: RETURN
$1060 j(y)=j(y)+1: p=(y-1) * 14+j(y): h(p)=f(w): g(f(w))=p: w=w-1:$ GOSUB $1090:$ RETURN
1070 PAPER $\emptyset: r=((n-1) \backslash 14+1) * 4: s=((n-1)$ MOD 14$) * 2+7$
1080 FOR $t=r$ TO $r+2: L O C A T E ~ s, t: P R I N T " \quad$;:NEXT:RETURN
1090 PAPER $3: q=h(p)-1:$ IF $q \backslash 13=0$ OR $q \backslash 13=3$ THEN PEN 1 ELSE PEN 2
$1100 r=((p-1) \backslash 14+1) * 4: s=((p-1)$ MOD 14) *2 +7
1110 FOR $t=r$ TO $r+2: L O C A T E ~ s, t: P R I N T " ~ * ;: N E X T$
1120 LOCATE $s, r:$ PRINT MID $\$(a \$((a \operatorname{MOD} 13)+1)$, INSTR(a\$( $(a \operatorname{MOD} 13)+1), " *)+1)$;
1130 LOCATE $s+1, r+2$ :PRINT CHR $\$(q \backslash 13+226)$;
1140 PLOT $5 * 16-16,415-r * 16,1:$ DRAWR 30, $0:$ DRAWR $0,-46:$ DRAWR $-30,0:$ DRAWR $0,46:$ RETURN
1150 IF $u=\emptyset$ THEN 1180 ELSE $x=\emptyset:$ IF $u+x>13$ THEN RETURN
1160 IF $p=(v-1) * 14+u+x$ AND $i(v)=u-1$ THEN $i(v)=i(v)+1: x=x+1:$ IF $u+x<14$ THEN 1160
1170 IF $i(1)+i(2)+i(3)+i(4)=52$ THEN $z=2$

## LIZTINGS

$1180 \mathrm{q}=0:$ FOR $x=13$ TO 52 STE．P $13: y=0$
1190 IF $((g(x)+y) \operatorname{MOD} 14)=0$ THEN 1200 ELSE $y=y+1:$ IF $h(g(x)+y)=0$ THEN $q=q+1: G O T 01190$
1200 NEXT：RETURN
1210 IF $e=1$ THEN 1260 ELSE $e=1: f=52: G O S U B$ 320：WINDOW \＃1，16，26，20，24
1220 DIM $g(52), h(52): G O S U B$ 1360：LOCATE 35，17：PRINT＊CARDS＂；：LOCATE 35，18：PRINT＂LEFT：＂；：f1＝52：GOS UB 1510
$1230 h(1)=f(52): f 1=51: h 1=1: g(h(h 1))=1:$ GOSUB 1500：GOSUB 1510：p＝1：GOSUB 1460
1240 IF $f 1=0$ THEN 1330 ELSE GOSUB $1500: h 1=h 1+1: h(h 1)=f(f 1): f 1=f 1-1:$ IF $f 1>0$ THEN GOSUB 1510 ELSE
PEN 1：LOCATE 35，16：PRINT＂NO＂；：LOCATE 36，19：PRINT＂＂；：LOCATE 39，18：PRINT＂＂；
$1250 \mathrm{~g}(\mathrm{~h}(\mathrm{~h} 1))=\mathrm{h} 1: p=\mathrm{h} 1:$ GOSUB 1460
1260 CLS \＃1：e1＝1：SOUND 2，100，3：GOSUB 370
1270 IF $u=\emptyset$ OR $v=\emptyset$ THEN IF $u \$=C H R(127$ ）OR $v \$=C H R \$(127)$ THEN SOUND 2，600：G0TO 126』 ELSE IF $u s==$ ＂OR v $\$=$＂＂THEN CLS \＃1：GOTO 1240 ELSE $z=1:$ RETURN
$1280 \mathrm{u}=\mathrm{u}: \mathrm{v} 1=\mathrm{v}: \omega 1=(\mathrm{v}-1) * 13+\mathrm{u}:$ IF $\mathrm{g}(\mathrm{w} 1)=0$ THEN SOUND $2,600:$ GOTO 1260
1290 LOCATE \＃1，4，3：PRINT \＃1，＂to＂；：e1＝4：G0SUB 370
 ＂OR v ${ }^{(\$=" ~ " ~ T H E N ~ C L S ~ \# 1: G O T O ~} 1240$ ELSE $z=1:$ RETURN
$1310 \omega 2=(v-1) * 13+u:$ IF $g(w 2)=\emptyset$ THEN SOUND 2，600：GOTO 1260
1320 IF $(g(\omega 2)\rangle g(\omega 1)-1$ AND $g(\omega 2)\rangle g(\omega 1)-3)$ OR（u＜＞u1 AND $v\langle>v 1)$ THEN SOUND 2， $6 \emptyset 0: G 0 T 0$ 1260 ELS E GOSUB 1430：GOTO 1260
1330 CLS \＃1：LOCATE \＃1，1，1：PRINT \＃1，＂You got＂；h1；：LOCATE \＃1，3，2：PRINT \＃1，＂I got＂；$w ;$ LOCATE \＃1，2， 4
1340 IF $h 1<\omega$ THEN PRINT \＃1，＂YOU WIN！＂；：FOR $x=150$ TO 25 STEP $-1:$ SOUND $2, x, 2:$ NEXT ELSE IF $w<h 1$ TH EN PRINT \＃1，＂I WIN！＂；：FOR $x=50$ TO 150：SOUND $2, x, 2:$ NEXT ELSE PRINT \＃1，＂A DRAW！＂；：FOR $x=150$ TO 7 5 STEP -1 ：SOUND 2，$x, 2:$ NEXT：FOR $x=76$ TO 150：SOUND $2, x, 2$ ：NEXT
1350 PAPER $\emptyset: P E N 1: L O C A T E ~ 27,24: P R I N T "[p r e s s ~ s p a c e] " ;$ WHILE INKEY\＄く〉＂＂：WEND：WHILE INKEY $\$\rangle "$＂：W END：CLS \＃1：LOCATE 27，24：PRINT SPACE $\$(13) ;: z=4:$ RETURN
1360 PEN 1：LOCATE $14,24:$ PRINT＂Working it out＂$;: h(1)=f(52): f 1=51: h 1=1:$ WHILE $f 1>0: h 1=h 1+1: h(h, 1)=f$ （ $f 1$ ）：$f 1=f 1-1: x=h 1$
1370 IF $x>3$ THEN $y=x-3:$ GOSUB $1410:$ IF $w=1$ THEN 1370
1380 IF $x>1$ THEN $y=x-1:$ GOSUB $1410:$ IF $\omega=1$ THEN 1370
1390 IF $x<h 1$ THEN $x=x+1:$ GOTO 1370
1400 WEND：$\omega=h 1: C L S$ \＃2：RETURN
1410 IF $(h(x)-1) \backslash 13\rangle(h(y)-1) \backslash 13$ AND $((h(x)-1)$ MOD 13）$\rangle((h(y)-1)$ MOD 13）THEN $\omega=\emptyset:$ RETURN $1420 h(y)=h(x):$ WHILE $x<h 1: h(x)=h(x+1): x=x+1:$ WEND $: h 1=h 1-1: x=y: w=1:$ RETURN
$1430 n=g(\omega 1): p=g(\omega 2): h(p)=h(n): g(\omega 2)=\eta: g(\omega 1)=p: G O S U B 1440:$ GOSUB 1460：WHILE $n<h 1: h(n)=h(n+1): g(h$ $(n))=n: n=n+1:$ GOSUB $1440: p=n-1:$ GOSUB 1460：WEND： $1=h 1-1:$ RETURN
1440 PAPER $\emptyset: r=((n-1)$ MOD 12$) * 3+3: s=((n-1) \backslash 12) * 4+2:$ IF $s=2$ THEN PLOT $(r-1) * 16,(26-5) * 16,0:$ DRAWR
46，©
1450 FOR $t=5$ TO $s+3:$ LOCATE $r, t: P R I N T " \quad$＂：NEXT：RETURN
1460 PAPER $3: r=((p-1)$ MOD 12$) * 3+3: s=((p-1) \backslash 12) * 4+2: F O R \quad t=s$ TO $s+3: L O C A T E ~ r, t: P R I N T "$＂：NEXT：t＝ $h(p)-1:$ IF $\quad \backslash 13=0$ OR $t \backslash 13=3$ THEN PEN 1 ELSE PEN 2

1480 LOCATE $r+2, s+3$ ：PRINT CHR $\$(t \backslash 13+226)$ ；
1490 PLOT $(r-1) * 16,(26-5) * 16,1:$ DRAWR 46，Ø：DRAWR $0,-64:$ DRAWR $-46,0:$ DRAWR $0,64:$ RETURN

 AWR 46，Ø：DRAWR 0，－64：DRAWR－46，0：DRAWR 0，64：PAPER 0：LOCATE 36，19：PRINT f1：RETURN
1520 IF $e=1$ THEN 1570 ELSE $e=1: f=52:$ GOSUB 320：DIM $g(5), h(25), i(5), j(5): W I N D O W$ \＃1，25， $35,20,24$ 1530 $\omega=1$ ：FOR $y=3$ TO 19 STEP 4：FOR $x=2$ TO 14 STEP $3: G O S U B$ 1730：LOCATE $x+1, y+1:$ PRINT CHR $\$(64+w)$ ；： $\omega=\omega+1$ ：NEXT ：NEXT

## LIZTINGS

1540 WINDOW \＃3，21，38，2，24：PAPER \＃3，0：CLS \＃3：PAPER \＃3，3：PEN \＃3，1：RESTORE 1650：FOR $w=1$ TO $11:$ READ $z \$: L O C A T E$ \＃3，1，w：PRINT \＃3，$z \$:$ NEXT
1550 PAPER \＃3，Ø：FOR $\omega=14$ TO $15:$ READ $z \$:$ LOCATE \＃3， $1, \omega:$ PRINT \＃3，$z=$ ：NEXT
1560 f1＝1：GOSUB 1680
1570 CLS \＃1：LOCATE \＃1，1，1：PRINT \＃1，＂Move to：＂：LOCATE \＃1， $1,3:$ PRINT \＃1，＂$Z$ to end）＂
1580 SOUND 2，100，3：WHILE INKEY事〈〉＂＂：WEND
1590 $z \$=$ UPPER $\$($ INKEY $\$):$ IF $z \$="$＂THEN 1590 ELSE $h 1=I N S T R(* A B C D E F G H I J K L M N O P Q R S T U V W X Y Z *, ~ z \$): I F h 1=$ 0 THEN SOUND 2 ， $600: G O T O 1590$ ELSE IF $h 1=26$ THEN $z=1:$ RETURN
1600 LOCATE \＃1，10，1：PRINT \＃1，2\＄；：IF $h(h 1)<>0$ THEN SOUND 2， $600: G O T O 1590$
1610 GOSUB $1670: h(h 1)=f(f 1): h 2=h 2+1: f 1=f 1+1:$ GOSUB $1710:$ IF $f 1<26$ THEN GOSUB 1680：GOTO 1580
 4＋4：PRINT $r$ ：SOUND 2，250，2：s $=5+r:$ NEXT
1630 FOR $m=1$ TO 5：FOR $n=0$ TO 4：$g(n+1)=h(n * 5+m):$ NEXT：$=0: G O S U B 1740:$ LOCATE $(m-1) * 3+2,24:$ PRINT $r$ ： SOUND 2，400，2：5＝s＋r：NEXT
1640 PAPER \＃3， $0:$ PEN \＃3， $1:$ FOR $y=12$ TO $17: L O C A T E$ \＃3， $5, y:$ PRINT \＃3，SPACE（ 10 ）：NEXT：CLS \＃1：LOCATE \＃3 ，3，16：PRINT \＃3，＂You Score＂；5：SOUND $2,200,135,15,1,1: z=4:$ RETURN

＂next＂，＂card＂
1670 PAPER \＃3， $3:$ PEN \＃3，1：FOR $y=13$ TO 17：LOCATE \＃3，11，y：PRINT \＃3，STRING $\$(4$, CHR $\$(250)$ ）；：NEXT：GOSU B 1700：RETURN
1680 PAPER \＃3， $3:$ FOR $y=13$ TO 17：LOCATE \＃3，11，$y:$ PRINT \＃3，SPACE $\$(4):$ NEXT：IF $(f(f 1)-1) \backslash 13=0$ OR（f $(+1)-1) \backslash 13=3$ THEN PEN \＃3， 1 ELSE PEN \＃3，2
1690 $z \$=a \$(((f(f 1)-1)$ MOD 13$)+1)+$ CHR $\$((f(f 1)-1) \backslash 13+226):$ LOCATE \＃3，11，13：PRINT \＃3，MID $\$(z=$ ，INSTR（ z\＄，＂＂）+1 ；；LLOCATE \＃3，12，17：PRINT \＃3，z＝：GOSUB 1700：RETURN
1700 PLOT $480,192,1:$ DRAWR 62， $0:$ DRAWR 0，$-80:$ DRAWR $-62,0:$ DRAWR $0,8 \emptyset:$ RETURN
$1710 x=((h 1-1)$ MOD 5$) * 3+2: y=((h 1-1) \backslash 5) * 4+3:$ PAPER $3:$ IF $(h(h 1)-1) \backslash 13=\emptyset$ OR $(h(h 1)-1) \backslash 13=3$ THEN PEN 1 ELSE PEN 2
1720 FOR $w=\emptyset$ TO $3: L O C A T E ~ x, y+w:$ PRINT SPACE $\$(3): N E X T: L O C A T E ~ x, y: P R I N T$ MID $\$(a+((h(h 1)-1)$ MOD 13） ＋1），INSTR（a\＄（（h（h1）－1）MOD 13）＋1），＂＂）＋1）；：LOCATE $x+2, y+3:$ PRINT CHR $((h(h 1)-1) \backslash 13+226)$ ；GOSUB 1730：RETURN
1730 PLOT $(x-1) * 16,(26-y) * 16,1:$ DRAWR $46, \varnothing$ ：DRAWR $0,-64:$ DRAWR $-46,1:$ DRAWR $0,64:$ RETURN
$1740 x=1: w=\emptyset:$ WHILE $x<5:$ IF $g(x)>g(x+1)$ THEN $y=g(x): g(x)=g(x+1): g(x+1)=y: w=1$
$1750 x=x+1:$ WEND：IF $w=1$ THEN 1740 ELSE FOR $x=1$ TO $5: i(x)=(g(x)-1) \backslash 13+1: j(x)=((g(x)-1)$ MOD 13$)+1:$
NEXT
$1760 x=1: w=0:$ WHILE $x<5:$ IF $j(x)>j(x+1)$ THEN $y=j(x): j(x)=j(x+1): j(x+1)=y: w=1$
$1770 x=x+1$ ：WEND ：IF $\omega=1$ THEN 1760
$1780 v=0: F O R x=1$ TO $4:$ IF $i(x)\langle>i(x+1)$ THEN 1790 ELSE NEXT：$r=r+5: v=1$
1790 FOR $x=1$ TO 4：IF $j(x+1)\rangle j(x)+1$ THEN IF $v=1$ THEN RETURN ELSE 1820
1800 NEXT：IF $v=1$ THEN $r=r+25$ ELSE $r=r+12$
1810 RETURN
1820 $u=1$ ：FOR $x=1$ TO $3:$ IF $j(x)=j(x+1)$ THEN $u=u+1$ ：NEXT：$r=r+16$ ：RETURN
1830 $v=1$ ：FOR $x=2$ T0 4：IF $j(x)=j(x+1)$ THEN $v=v+1:$ NEXT：$r=r+16$ ：RETURN
1840 IF $u=3$ THEN IF $j(4)=j$（5）THEN $r=r+10:$ RETURN ELSE $r=r+6$ ：RETURN
1850 IF $u=2$ THEN $r=r+1$ ：IF $j(3)=j$（4）OR $j(4)=j(5)$ THEN $r=r+2:$ IF $j(3)=j(5)$ THEN $r=r+7:$ RETURN ELSE RETURN ELSE RETURN
1860 IF $v=3$ THEN $\mu=\mu+6$ ：RETURN
1870 IF $v=2$ THEN IF $j(4)=j(5)$ THEN $r=r+3$ ：RETURN ELSE $r=r+1$ ：RETURN
1880 IF $j(3)=j(4)$ OR $j(4)=j(5)$ THEN $r=r+1$ ：IF $j(3)=j$（5）THEN $r=r+5$
1890 RETURN

## PROGRAMMING 10 LINERS

Send your 10 Liners to: Amstrad Computer User, 3rd Floor, Greencoat House, Francis Street, London SWIP 1DG. Remember to include a suitably stamped, self-addressed envelope if you want us to return your tape or disc.

# THE PATTERN COLLECTION by Bill Hamley 


#### Abstract

Why watch the boring old TV when you can lose you mind trying to follow recursive patterns on your CPC? These seven 10 -liners will waste your retinas as your machines puts on a light show fit for a king.


## ***HYPERCUBE***

10 MODE 2:DIM x1(10),y1(10), il(10),12(10): INK 0,21:INK 1,0BORDER 21
20 INPUT"Enter No of Dimensions (2-10)"; $n: C L S: I F(n>10$ OR $n<2$ ) THEN GOTO 20
$30 \mathrm{p}=\mathrm{Pl} / \mathrm{n}: \mathrm{i}=-1: \mathrm{FOR} j=1$ TO n STEP 2:1
$=1-1: c=i^{*} p: x 1(i)=\operatorname{COS}(c): y 1(i)=\operatorname{SIN}(c)$ : NEXT $i$
$40 \mathrm{i}=\mathrm{n}:$ FOR $\mathrm{i}=2$ TO n STEP $2: i=\mathrm{i}-1: \mathrm{c}=$ $i^{*} \mathrm{p}: \mathrm{xl}(\mathrm{i})=\operatorname{COS}(\mathrm{c}): \mathrm{y} 1(\mathrm{i})=\operatorname{SIN}(\mathrm{c}):$ NEXT i $50 f=0: F O R j=1$ TO $n: f=f+y(i)$ :NEXT $j: x 0=270: F O R j=1$ TO n:IF $x(j)<0$ THEN $\mathrm{xo}=\mathrm{xo}+\mathrm{xl}(\mathrm{i})$
60 i(i) $=0$ NEXT i:f=320f:xo=xo-20/f: yo=50:FOR $i=1$ TO $2 n$ - $1: F O R i=1$ TO $n$ 70 i2(i) =i (i): NEXT $\mathrm{j}:$ FOR $\mathrm{j}=1$ TO n:IF il(i) =1 THEN 100 ELSE i2 $(i)=1: x=0: y=0$ 80 FOR $k=1$ TO $n: x=x+i(k) * x(k): y=y$ $+i 1(k)^{*} y l(k)$ :NEXT $k: P L O T \quad X^{*} f+(x 0)$, $y^{*} f+(y o): x=0: y=0$
90 FOR $k=1$ TO $n: x=x+i 2(k)^{*} x 1(k): y=$ $y+i 2(k)^{*} y 1(k)$ :NEXT $k:$ DRAW $x^{*} f+(x 0)$, $y^{*} \mathrm{f}+(\mathrm{yo}): \mathrm{i2}(\mathrm{i})=0$
100 NEXT $\mathrm{i}:=1$ :WHILE $\mathrm{i}(\mathrm{j})<0: 1(\mathrm{i})=$ $0: 1=\mathrm{i}+1:$ WEND: $1(\mathrm{i})=1:$ NEXT i WHILE INKEY\$=""':WEND:IF INKEY(67)>>0 THEN CLS:GOTO 2* ELSE END
***KALAEDOSCOPE ${ }^{* * *}$
10 MODE 0:REM KALAEDOSCOPE by Bill Hamley
20 FOR go=0 TO 50:GOSUB 70:FOR z=1 TO 500:NEXT z:FOR q=1 TO 2
30 ORIGIN 320,200,a,b,c,d:CLG ik:ORIGIN 320,200,639-b, 639-a,c,d: CLG ik
40 ORIGIN 320,200,a,b,399-d,399-c: CLG ik:ORIGIN 320,200, 639-b, 639-a, 399-d, 399-c:CLG ik
$50 \quad a a=d^{*} 1.6+6: b b=c^{*} 1.6-6: c c=$ $b^{*} 0.65+8 d d=a^{*} 0.65-8: a=a a: b=b b:$
$c=c c: d=d d:$ NEXT q:NEXT go 60 WHILE INKEY $\$=$ "'"':WEND:IF $\operatorname{INKEY}(67)=0$ THEN 100 ELSE GOTO 20
$70 \quad \mathrm{x}=$ INT (RND(1)*320) $+320: \mathrm{y}=$ INT(RND( $) * 320$ ) $+320: a=\operatorname{MIN}(x, y):$ $b=M A X(x, y)$
$80 x=1$ NT $\left(R N D(1)^{*} 200\right)+200: y=$ INT(RND(1)*200) $+200: d=$ MIN ( $x, y$ ): $c=$ MAX $(x, y):$ IF $(c-d)>50$ THEN $c=d+$ (RND(1)*50)+1
$90 \quad i k=\operatorname{INT}(R N D * 16): I N K \quad i k, I N T$ (RND*27):RETURN
100 CALL \&BC02:PAPER 0:PEN 1:END

## BIG PRINT

## by

## Willie Lawrie

10 MODE 1:BORDER 0:INK 0,0:INK 1,26: INK 2,0:DEFINT a-z:TAG:a=19 : $b=8$
$20 \mathrm{~h}=2: \mathrm{w}=2: \mathrm{z}=360$ :PLOT 1,15,2: PRINT'A B CDEFGHIJ";: GOSUB 70
$30 \quad h=3: w=2: z=276:$ PLOT 1,15,2: PRINT"KLMNOPQRST";: GOSUB 70
40 h=4:w=2:z=172:PLOT 1,15,2: PRINT"U V W X Y Z $0123^{\prime \prime}$;: GOSUB 70:a=5
$50 \mathrm{~h}=5: \mathrm{w}=4: z=48$ :PLOT $1,15,2:$ PRINT " $45678^{\prime \prime} ;:$ GOSUB 70:a=3:b=350 $60 \mathrm{~h}=9: \mathrm{w}=6: \mathrm{z}=18:$ PLOT $1,15,2$ :PRINT "'(9)" ";:GOSUB 70:CALL \&BB18:END

If you have something to say, say it big and bold. This handy little routine allows you to place a string of characters on the screen in a position and size of your choice. The variables $h, w$ are the height and width, $a=$ number of characters in the string, and b,z are the screen coordinates.

[^3]

# APPLICATION  Lock, Stock and Barrel 

David Dorn reviews Stock Control and discovers how to keep his assets firmly underwrap.

0ne of the great things about the CPC6128 is that it isn't just a home computer, as many small businesses will attest: It is versatile enough, because of the $\mathrm{CP} / \mathrm{M}+$

environment which accompanies it, to be used for a variety of tasks in what might be termed the 'serious' end of the market. As you are no doubt aware, there are many business orientated programs available under $\mathrm{CP} / \mathrm{M}+$, but usually at a price, and most of them haven't been updated for some time.

As you may have gathered from the review of Thompson Computers' Simple Accounts in the February issue of ACU, Douglas Thompson has every intention of making straightforward to use applications available at a reasonable price, and his latest release, Stock Control, bears this out.

Like Simple Accounts, Stock control is for use by CP/M Protext users, and will not run under the Amsdos/ROM/Pocket versions, which restricts its use to the 6128, or those 464 s and 664 s (are there many still in use?) that have been upgraded to use CP/M+. It is written using Arnor's Promerge language, and takes the form of a number of text files on one $3^{\prime \prime}$ disc. The manual which accompanies the disc runs to 11 pages, and apart from the odd spelling mistook (which should not happen, given Protext's superb spelling checker) it's easy to read, and gives you most of the info you need to get the package up and running.

Thompson claims that Stock Control is intended for the small business which requires to keep track of its stock and reordering system, which it will do, and with the minimum of fuss. Basically every step is menu driven, and, if the manual is consulted BEFORE the suite is used, the user should have no problems.

Startup, once CP/M Protext has been loaded, is simply a matter of typing ' $x$ thompson' at the a: prompt the first time Stock Control is used, and ' x sm' thereafter. The first option sets up the program by copying some data files, and setting the starting date. ' x sm' takes you straight to the main menu (after the drive has been accessed) from which a number of options are available (see fig 1.).

Each of these options is self explanatory, so I don't propose to go into great detail on each one, but there are one or two points

## APPLICATION


that bear more than a passing mention. Users of Stock Control need to be patient, as each completed transaction has to be saved to disc before the next can be begun.

- fig 1

Thompson Computer Stock Control (v 1.00)
MENU The Date is $23 / 01 / 89$
Enter Stock Details . . . . . . . . . . . . . . . . . . . 1
Edit Stock Details...................... . . 2
Print Stock Details . . . . . . . . . . . . . . . . . . . . . 3
Update Stock Levels . . . . . . . . . . . . . . . . . . . 4
Print Re-Order List . . . . . . . . . . . . . . . . . . . . 5
Enter/Edit Stock Group Names . . . . . . . . . . . 6
Display Value of Stock . . . . ................. 7
To End Program. . . . . . . . . . . . . ......... . E
This may mean quite a bit of time sitting watching the drive whirr round whilst a stock update is being done. That said, I can find no way round it, and anyway, keeping track of stock by this method is still quicker than the manual alternative.

Next, there is no way to delete a stock line. Any item that is no longer part of the business's stock must be amended to become another, preferably new, line. This causes no major hassle, and is a limitation
of the file handling built into Protext, as far as I can see. The only other hiccup comes in option 7, Display Value of Stock, which falls over if all of the stock groups aren't used. I discovered this through lazily keying 'a' for all groups, rather than keying in only the groups I was using, but it could probably be trapped, and so, should not happen.

As far as capacity for items is concerned, the kind of business that uses a 6128 as its computing power isn't going to have any problems using Stock Control. Nine different groups of stock are available, with the size of each group limited only by disc size and memory capacity, which should leave plenty of room. The grouping method of doing things means that the user has the facility to group similar items together, meaning that only that group need be worked on at any one time. A nice touch, and as it should be.

Overall then, what you get for your fifteen pounds is definitely worth the money. Barring the waits for the disc drive to catch up, everything about Stock Control is smooth and simple, displays legible, and output sensible. I can see a use
for it in many small businesses which might otherwise be unable to justify spending large amounts on standalone stock control programs. Of course, Stock Control is of no use without CP/M Protext, and that is something I've borne in mind when considering my evaluation. I don't know that I would advise anyone to go out and buy CP/M Protext just so they could use Thompson Stock Control, but, if you already have that wonderful word processor, and you need some form of computerised stock control, the Thompson Computers' offering is probably for you.



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# EDUCATION Playschool <br> David Dorn explores the world of Fun School 2 

0ne of the fondest memories in my life concerns the time when I was teaching in a little primary school on a feudal estate up in the North East of England. There were thirty-one pupils, the Head Teacher, and me; no computers, no high technology, and lots of fresh air. One day, one of the junior aged children brought in the family's latest acquisition - a VIC 20 - and we all gathered round it to see what it would do. From that moment on, I knew (this was before the Beeb, never mind the CPC ) that computers had to have a place in education.

The latest thing to happen to convince me even further is the release of Database's Fun School 2 series of suites.

There are three collections of educational programs in this follow on to the original Fun School series, (which I have used for some time in the classroom) covering three age ranges Under 6, 6-8, and 8 and over.
"Database has taken pains to package Fun School 2 attractively. .."
Those of you who saw the original series know that the presentation of the packages left quite a bit to be desired, yet in education the gloss can mean the difference between immediate acceptance by a child, and having to sell him on using it. Database has taken pains to package Fun School 2

attractively, and include a freebie badge, and I think its pays off. My seven year old daughter, Suzanne, saw the packages

dropping from the jiffy bag, and didn't waste any time in asking if she could use them. To be honest, I've had a job on my hands trying to prise her off the computer since then, because she enjoys playing the games so much!
Also included in the brightly coloured box is a neat fold-out card containing all

## EDUCATION

After all, no child can learn anything while waiting for the program to load, so it makes sense to cut that down as short as possible. The same applies to the other ages as well, though not to the same extent. If you don't have a disc drive, then you have little choice, I'm afraid, it's either tape or buy a DD1, and


- If you go down to the woods today...
of you that don't know, when a child is first learning to read, capital letters aren't used, so this shows that some research into the needs of early learners has been done. Good! Shape Snap displays two large, brightly coloured shapes, and requires the child to press the spacebar if they match, or any other key if they don't. A correct response is rewarded with a tick, and a picture of a teddy. This teddy recurs throughout the under 6 disc (the other two discs have a frog and robot), and becomes a friend to the child. This again is a valid technique, and is nicely implemented.
Find the Mole is a variation on the 'guess a number' theme, prompting with 'higher' or 'lower' till the child gets it right. The mole then pops up from one of five molehills, and teddy reappears. Nice, neat, and a good reward game.
Teddy Count is a counting game, with three parent/teacher selectable skill levels, as have most of the games on all three discs. This is straightforward, well presented, and useful.
Write a Letter allows the child to do just that. Many parents will be aware that children love to write especially when writing itself is a new skill, but quite often, the creativity of a child is stilted by the mechanical skills needed to form letters. This program allows the child to
the details that a parent or teacher needs to start a child away on each suite. There are no on-screen instructions, something which I criticised in the first series - they tend to confuse the child, instead, each of the programs in the collection has a section on the card which explains what the child is supposed to achieve, and the keys to use. Thankfully the keys used in each game are consistent, and usually doubled up (the space bar often doubling for <RETURN $>$ ), so there is the minimum of time spent learning how to use a program, and more time to actually get down to using it.

Suzanne and I have been looking at the disc versions of the series, rather than the tape based versions, and for some
"A correct response is rewarded with a tick, . . :"
very good reasons. The under sixes have a fairly short attention time, and to wait for a tape ased game to load often discourages them to the point where they give up, and go on and do something else. I can't say I blame them. In my opinion, all educational programs should be on disc for this very reason.


- I am a mole and I live in a hole!

I'd go for the latter if I were you!
Anyway, off the soapbox and on with the review! The under 6's package has eight separate programs, ranging from Shape Snap to Teddy Bear Picnic. My first impressions at the main menu were immediately favourable, as there are no upper case letters on it at all. For those
experiment with letter combinations and colour to produce results that are pleasing to the eye. Like all of the programs on the first two discs, a parent should be in attendance to help the child, although once a game is understood (not necessarily mastered) he/she ought to be near, but not quite so

## involved.

With Write a Letter, more help may be needed than with other programs. I rather like this one, and the fact that pressing CTRL-P copies the screen to a printer is a point in its favour. There's nothing more motivating than having some of your work plastered around your walls!

Colour Train is a colour matching game involving a train passing through coloured stations. When the colour of the train matches the station it's moving through, a dab at the spacebar gets the reward of animated passengers leaving and boarding the train. There is a lot of scope for parent and child to explore number, colour, and direction in this one, which is laudable. Pick a Letter and Spell a Word are more concerned with language. The former helps a child to distinguish one letter from another, and is nicely done, while the latter is self explanatory. There are ten pictures representing ten words, each of which the child must spell. The words are correctly aimed, and the
"I've always felt that the CPC is an ideal educational tool,..."
implementation of the game good.
The final game is Teddy Bear Picnic, in which the child's aim is to guide Teddy through a maze to get to the grub! Parents should sit with young children and use the words 'left', 'right', 'up' and 'down'. This makes a splendid reward game for good attempts on the others.

In all the games on the under 6 disc, animation and presentation seem to have been well thought out, and the display tuned to young eyes, with strong, primary colours, and bold positive shapes. I'm most impressed!

And so to the 6-8 years compilation. The format is much as the previous one, in that there are eight games to choose from, with the friend being a dancing frog! They follow on from the first disc in both presentation and consistency of keys, and also use some of the same presentation techniques to move on from concepts introduced in the earlier games. I don't propose to go into detail about all the games in this compilation, as space won't permit, but I can say that the age range indicated on the box is about as accurate as you can be, Suzanne found that she could manage the lower level of each game with no bother, but that the higher levels taxed her somewhat, and made her think. Since that is what this series is designed


- Pick a letter, any letter!

- ... And through the round window.
to do, I can do nothing but praise the authors! Mind you, having the thing running at 7.30 am, while Daddy is still half asleep does nothing for my ego when I get an answer wrong (I'm a night person!), but says volumes for the quality of the programming.
The final disc, for the over 8 's is filled with eight challenging programs for older primary school ages. However, there's so much in it that it deserves review all to itself, which you'll see next month!

To say that I'm impressed with the Fun School 2 packages I've looked at this month is understating the case. I've always felt that the CPC is an ideal
educational tool, and these two compilations lend weight to that argument. The graphics are good, the sound used sparingly, and to good effect, but what's more important, the content is spot on. When I looked the original Fun School series some time ago, I criticised spelling, presentation, and the fact that the age ranges specified were wide of the mark. All of these points have been answered, and in grand style. I would be happy to use either package in a classroom, and can heartily recommend them for use in the home. Full marks to Database, you can go to the top of the class. Let's see more in this vein!

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# PROFILE AIRBORNE RANGER 

# Mark Ulyatt gets carried away on a trip to see the simulation specialists, Microprose. Try reviewing without a parachute, they said as he came down to earth the hard way. 

Microprose is a name synonemous with high quality and highly enjoyable simulations. Gunship, Silent Service, and F-19 Stealth Fighter all testify to that, but the situation may soon change. No, Microprose isn't going to suddenly churn out any old rubbish like some companies, but rather is going to expand its operations to cover other, as yet untrodden, fields.

The company originally started life as a joint venture between Wild Bill Stealey and Sid Meier in the States, with F-15 being one of the first products to appear. The game has sold over one million copies worldwide, making it one of the software industries top sellers ever. With that kind of success, it wasn't too long before Stewart Bell was approached to set up the European arm of Microprose, in the small Gloucestershire town of Terbury, where it still resides.

## Jaccuzi

Around 72 people man the Microprose offices, but that doesn't include any programmers. There are between $30-40$ of them over in the States but Stewart remarked that, "We are using a lot of contract programmes for the new labels we' re hoping to bring out later this year, and also for some of the conversions.
"Traditionally we've taken the best Amstrad and Spectrum programmers and flown them out to the States. We give them a carr, and an apartment in the Microprose apartment block. It even has a swimming pool and a jaccuzzi."

I pressed Mr Bell about these new labels,

and this new direction that Microprose would be taking.
"We'll be launching two labels in May and releasing $12 / 14$ titles this year. One label will
> "I guess we’ve got 150 programmers working for us."

be primarily high level 16 -bit, the other more 8 -bit with some 16 -bit conversions.
"Some games will have a simulation bent, and some won't, but they'll all be fun to play."


Does this mean that Microprose will be entering the scrolling shoot 'em field. Surely not?

Stewart was a little awary on this one. "What we'll try to do is the best of what's available. We've got eight or nine teams now contracted to work for us. One of the things we'll be doing is UMS II on all formats, which concerns global warfare. There'll be a driving game and a couple of exciting licences as everyone else knows them.
"We try to get very involved in our products. We release so few during the year that we get involved in detail. Indirectly I guess we've got 150 programmers working for us.
"One of the other products we are launching, either the end of this month or the beginning of April is Navy Seal. This is along the lines of Airbourne Ranger, is from Cosmi, and is based on a diver underwater. Inside each game package is a watch worth $£ 12.95$. The game only costs £9.95:"

On the question of whether Intergalactic Software, producers of the original UMS woud be undertaking any more projects for Microprose, Bell was optomistic.
"We are very hopeful it will not just be a one game shot with Intergalactic. You'll also see a number of other very well known companies being launched within that label.

Companies that bring out one or two products a year, but don't really have the marketing force or muscle to get the proper distribution.
"One very well known English company is joining us, and it isn't Hewson, although we have started using their products in America. When you see it it will all slot together."

## Wobbly

So what are the names of these labels, that all these wonderful programs are coming out under Stewart?
"The names are Microstyle and Microstatus, but anything can change.'

As well as the new software side of the company there's also the wobbly bits to consider. Joysticks!
"We've got Suncom to develop a new joystick called the analogue edge, the other IBM ones were sloppy and horrible. This is a flight sim joystick, with proper feel, nice fire buttons, and speed control on it as well. We'll also be doing a new cheapie joystick later in the year.
"We do about a $£ 1.5 \mathrm{~m}$ of business on joysticks."

With Microprose Soccer hopefully in the shops by the time you read this, the company will be actively persuing the sporting theme. Stewart remarked, "We'll do more sports games if we can find some of high quality. Bill wanted us to do an ice hockey game, but I tried to explain it's not the same over here."

A couple of products you can look out for are the CPC conversions of the arcade coinop (Microprose's first), Xenophobe, which

## PROFILE


features a split screen and simultaneous play againt horrible slimey aliens, Tangle Tales, and RPG in the mould of Times of Lore (but better), and F15-2, which has all the strategy of the original, but the latest in
> "If you're paying money you should get excitement and enjoyment."

graphics. Watch for that one after the PC show.

So where is Microprose going??
"Microprose as a core company will
always be into top flight simulation programs. By Autumn we'll have our own coin-ops, we'll always be doing flying games that Bill loves to play and Sid loves to write. The other labels will bring high quality entertainment to the market and give the customer the sort of service that they should get if they pay $£ 25$ for a game.
"If someone finishes Times of Lore there is a message - reply and you get a hand signed scroll from Lord British. If you're paying money you should get excitement and enjoyment:"

Quite so Stewart. Hopefully, as Microprose expands its operation, it will keep in touch with its grass roots support, and go on to deliver high quality entertainment in other fields, just like it has in the simulation field so far.



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## Norway to treat an Amstrad

I am an unlucky Amstrad owner who lives in Norway in a town called Sanderfjord. Do not misunderstand me. I love my Amstrad CPC 6128, but Norway is dominated by Commodore owners, and no one really cares about us Amstrad owners here in Norway. The nearest computer shop with Amstrad games is in Oslo, two hours drive from Sanderfjord. I have bought all my games, but my economic situation has prevented me from buying any more games or programmes. Just think my favourite software company, Magnetic Scroll's games cost over $£ 40$ in Oslo.
I also have a complaint about your ever so great and fantastic magazine. When the January ' 89 issue arrived in late February I was very impressed by the new look, even if the adventure section was missing. But as time passed and the April issue arrived yesterday I saw that my favourite section, Hairy Hacker, was gone.
The bronze, silver and gold ratings were also missing. I hope this is just a fault from your side. If not, please bring them back.
And my last point of view is that the software company Ocean does not care
about us Amstrad users. Just take a very good look at the Game, set and match II advertisement, under the Ocean logo it stands with tinsey wincey letters; Superbowl and Winter Olympiad are not available on the Amstrad version. And they do not compensate that with two other games.
At last I just want to say that your magazine is the best computer magazine around.

Christian Holthe Norway.

ED: Hairy is back to stay and who knows what may be happening on the adventure front. Watch this space for further revelations.

## Amstrad Shocker

Last Christmas I was given a CPC 6128, plus disc software and joysticks. About 3 weeks later the CPC developed a fault in the disc drive, it would not load the discs into the memory. My parents took it back to the shop where it was purchased and it has been there ever since. We have had stories from the shop saying the CPC had been sent back to Amstrad, they sent it back to the shop
again saying it was they who should put it right. Since then we have rung or visited the shop about once a week. The tale now is, Amstrad have asked for the disc drive back to replace it. GREAT!! The bottom line is Amstrad are out of stock of disc drives. My parents are furious, but the shop say they get very little feed back from Amstrad. Perhaps a jolt from A.C.U. would help, PLEASE, PLEASE, PLEASE.

Bruce Savage,
Wotton-under-Edge, Gloucestershire,

ED: I don't think Alan Sugar would appreciate being wired to the mains. Seeing your letter in print should provide the necessary motivating forces.

## AIX-386 goes Amstrad

I believe your readers may be interested in the following announcement:
"AIX-386 Bulletin Board now has an active Amstrad Section, catering for the CPC computers. It can be reached on Worcester (0905) 52536, and on four other lines, using all speeds (V21/22/22b/23 8N1).
Access to the Amstrad Conference and file areas is free, but you must register to obtain access. There are many other conferences, as well as goodies like online games such as 'Trade Wars' and Infocom Adventures. Multi-line chat is available between different users who are connected at the same time.
Ring now to get hints, tips and software for your CPC. Leave a message for 'CPC EDITOR' to ask any questions or give your comments."

## Cry for Help

In the program "FOURTRIS" by Ian Sharpe on the disc of your November offer I inadvertently erased the binary code of the program.
Not only that but I recorded a program onto the disc which went onto the sector used by "FOURTRIS.BIN" and stopped me from un-erasing the program. I would be grateful if someone could send me a printout of the code. It starts at $\& 8000$ and is 2176 bytes long. I will of course pay all expenses.
G.A. Robson, Middlesex:

ED: Can anybody out there help?

## BASIC Solutions

We have two computers in the family, I have a PCW 8256 , fully upgraded to a double disc machine, and the children have a CPC 6128 , which of course they use most of the time for games.
The problem was, when would I be able to type in listings from your magazine? There had to be a way of doing it on the PCW and transferring it to the other machine, after all they both use the same discs.
First, have a disc formatted on the CPC to take basic programs, create a document on the word processor, type in the listing as normal, save on the CPC
disc in the ' A ' drive then change the saved document into an ASCII simple text file. Transfer the disc to the 6128 programmes and can be error checked using the proofreader as normal. It might seem a bit long winded but it means that I can be typing in listings on the PCW while the CPC is in use.
If programmes on the CPC can be saved in ASCII format as well, then they can be 'inserted' and read by a document on the PCW.
Just a bit of information useful to someone perhaps.

Colin Farmer,
Scunthorpe.

## Crystal Gazing

A year is a relatively short length of time but obviously in the world of computer magazines, it is a life-time. Consider the choice that faced the Amstrad user just twelve months ago. Both A.C.U. and CPC User (but known then as Computing with the Amstrad) were going strong, giving ample coverage of all subjects that interested both the Games players and the more Serious user's of Amstrad CPC's. Not everything appealed to everyone (an impossibility) but usually there was enough in both to keep most people happy and ignore that which was not relevant to the individual.

## Hi-Scores Unlimited

I am writing to ask if you know of anyone who has beaten the score $39,659,470$ with 43 lives left intact at the end of the game an AFTERBURNER.

Also could you please put some form of 'High Score' table in the magazine, so people like myself can compare our bests with the rest of the country.

Courtney Mash, Abergavenny.

ED: If you all send in your hi-scores we will be happy to oblige.


- Afterburner, more bugs than London Zoo's insect house!


Now that the two magazines have merged, what is the outcome? I have just read the May 1989 issue of A.C.U. How does it compare with the combined issue's of exactly 12 month's ago? Favourably? We shall see by comparing the following list of total pages allocated to which subjects:
A.C.U. (May 1989):A.C.U. \& C.W.T.A.
(May 1988)
Articles's on:-

| Games Reviews | 18.5 | 20.5 |
| :---: | :---: | :---: |
| Hacking Hints | 4. | 6. |
| Serious Hardware | 2.5 | 2.5 |
| Serious Software | 0.5 | 9.5 |
| Basic Programming | 2 | 2 |
| Machine Code | 2 | 0 |
| Type-Ins | 2 | 10 |
| Adventures | 0 | 11.5 |
| Problems/Advice | 2 | 3. |

So who has gained and who has lost? We quite clearly the Games players have lost nothing by the two magazines combining so what has had to go to make room? 12 pages of adventure advice/reviews and 9 pages of serious software reviews, plus 8 pages of typeins, to name a few obvious ones. Coincidentally, the very articles that I used to buy the two magazines to read.
What does the future hold? Is A.C.U.

## Killer Hamster

While I was reading the May edition of your magazine, I noticed that in the News section on page 11 under the heading a "Hamster Ate My Rock Star". On reading the text below, the Game is actually called "A Rock Star Ate My Hamster", is this a deliberate mistake or do my eyes need testing.
I own a CPC 6128 and find your mag a great help with progs, pokes and reviews etc.

Keep up the good work. By the way my Dad let me write this on his PCW 9512 not bad eh!

Stephen Clegg, Cornwall.

ED: Have you ever seen the news editors Hamster? SORRY!
condemned to become just another Games magazine like all the others and change it's name to "Amstrad Games Review', or will you get your act together and divide the pages $50 / 50$ between games and actually USING the computer, as your name implies. You see, I'm not greedy. I will be quite happy if only HALF the magazine appeals to me, which would be a big improvement over the current situation. Bear in mind also, that a large number of games players are also interested in being able to program their machines, use them as wordprocessors etc. I even know some "serious" users who are not against the "occasional" alien zapping. As for myself, the only games that I load up are Adventures, or short type-ins that let me discover the secrets of the programming. So there should be room for all of us!
Please state in the next issue your objectives for the future of A.C.U. Do you intend to continue with your present format? Do you intend replacing the "serious" writer's that were lost due to the take-over? Do you intend employing a proof-reader? (The amount of mistakes make the whole magazine very sloppy).
I hope you reply to this letter in a positive fashion. As I receive A.C.U. via The Official Amstrad User Club, if I am not satisfied that you intend to make improvements (from my point of view), then this will be one ex-member.

Bob Adams,
Welwyn Garden City, Herts.

ED: Rush out and buy your asbestos
gloves now, because the redesign -
starting next month, is hot. More of
what you want with in depth
interviews, all your favoriteregulars
and a brand new games section.


COMPUTER ENTERTAINMENT SOFTWARE


- If you think the News Editor's hamster is big, you should see my gerbil!


## Tab Trouble

I would like to ask you a couple of things. Firstly, when I bought my Amstrad 6128 and got my master discs, there was no protecter tab. That meant that I couldn't make a copy of my master discs. The manual recommends that you do make copies of the discs, so that the originals will be kept safe. All of my friends with the same computer as me complain about it too. Some of them put sticky tape over the hole and try to copy. I don't want to try it because it could accidentally get stuck in the disc drive. What should I do?
Secondly, I would like to join the Amstrad Computer User Club. I do not have an address to get in contact with the club. Could you please give me the address.
Thirdly, I would like to mention how great your magazine is. I especially like the Hairy Hackers and the reviews of games. There is another magazine in Australia called Amstrad User. Your
magazine beats it in every way. I think you all deserve a pat on the back.

Umut Omer,
Melbourne, Australia.

ED: Your master discs are permanently write protected in order to safe guard the data they contain. The status of the write protect tab does not in any way affect your ability to copy the discs. And placing something over these write protect holes only means that it would be possible to erase what they contain not a good idea. I suggest you read your manual to obtain further details about copying discs.

The address of the club is: Official Amstrad User Club, Enterprise House, PO Box 10, Roper Street, Pallion Industrial Estate, Sunderland, SR4 6SN or ring 0915108787. Membership costs $\$ 24.95$ and all cheques should be made payable to Amsoft Mail Order.

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    100 NEXT $y$ :NEXT $x$ :RETURN

